

American Aviation

The Independent
Voice of
American Aeronautics

15c A Copy

Vol. I. No. 24.

Published Twice a Month

May 15, 1938

\$3.00 a Year.

Fortnightly Review

Pass That Bill!

DO YOU remember or have you seen an adolescent youth trying to buy a suit in a clothing store just before closing time on Saturday night? His pants have broken out in the seat and his elbows are frayed and the whole trend of his life may actually be changed if he doesn't have that new suit so that he can impress the object of his affections on Sunday.

The suit he's trying on really looks well and with trousers shortened 2 inches will serve in his emergency nicely. But he can't see that, this adolescent youth, and he approaches the zero hour of store closing quibbling about a lot of petty details. There is a slight bulge in the rear of the coat just below the collar and the waist should be more extremely pinch-back.

Gong goes the closing bell. Sorry, says the clerk, but the tailor cannot now even take time to shorten the trousers, but we'll be glad to serve you Monday. The youth is frantic, but he has quibbled too long on details of minor importance, is without any new suit for Sunday and the other fellow gets the Sunday date.

What has this to do with aviation? It is a fairly good illustration of what is going to happen to scheduled air transport unless well intended (but scattered) brains get together before the adjournment of the 75th Congress. There are good bills ready for passage in both houses that, enacted, would bury for all time the "vindictive" Air Mail Act of 1934 and give scheduled air transport the stability that will make possible more schedules, new routes and feeders, and thousands of new pilots' and mechanics' jobs.

(Turn to page 12)

Lea Aviation Bill Delayed In House by 3 Amendments

O'MAHONEY AIDING AIRLINES ON MAIL

UAL and TWA Get Added Mail Pay;
Wyoming Senator Leads Fight

The Post Office Department has announced for May 14 the inauguration of a fourth pay mail schedule on United Air Lines' Route 1 between Chicago and Salt Lake City and a fourth mail schedule for Transcontinental & Western Air, Inc., between New York and Wichita. Each schedule is for five days a week.

Although known to few, the chief factor behind the scenes of the new schedules is Senator Joe O'Mahoney of Wyoming, formerly First Assistant Postmaster General. Observers have been impressed not only with his basic knowledge of air mail problems but with his constructive interpretation of the Air Mail Act of 1934 under which the domestic air carriers have operated.

Together with Senators Carl Hayden and Pat McCarran and other members of the Senate appropriations committee, O'Mahoney was recently instrumental in securing Senate approval of a \$400,000 increase over the Budget estimate in the Post Office Department appropriation bill for the specific purpose of

(Turn to page 2)

Aids Air Mail



SENATOR JOE O'MAHONEY
of Wyoming who led fight for increased air mail frequency

News Becomes Fashionable

Aero Digest launched an enlarged and new section for aviation news in its May issue. *Aviation* began its news section and Washington column last October.

Expect Over 1,000 Feeder Lines During National Air Mail Week

Incomplete reports from state organizations indicate that there will be more than 1,000 feeder air mail routes in operation during National Air Mail Week, May 15-21, according to Charles P. Graddick, superintendent of air mail.

New York State has indicated that it has authorized 100 such routes and Pennsylvania plans to commission more than 200 pilots for May 19, the air mail anniversary date. Thirty-three towns are on the various schedules planned in Alabama.

In Washington, Johnny Miller, Kellett Autogiro test pilot, will carry Eastern Air Lines' mail from Washington-Hoover Airport to the Department of Commerce, landing on a small tract of land next to that building. In Chicago, TWA's mail will be carried from the post office roof to the airport by giro.

United Air Lines has received Post

Office permission to reenact the first night air mail flight between North Platte, Neb., and Chicago. Inasmuch as the first flight was made possible with the aid of bonfires, plans are now being completed by the various cities along the route for similar lighting on the May 20 flight. United will use a DC-3. Larry Fritz, now superintendent of TWA's eastern region, who piloted the first contract air mail flight, will fly a DST from Los Angeles to New York on May 15. He will be accompanied by Steve Welsh, superintendent of TWA's western region, who was field manager at Cleveland, receiving the first air mail flight and dispatching it on the return trip.

The first "airliner post office" will be established in the cabin of an American Airlines' DC-3, which will be on display in Washington near the Department of Commerce. The new

(Turn to page 2)

Clearance Expected for a McCarran Bill In Senate; Test in House Is Favorable

THE Lea bill (H. R. 9738), designed to create a Civil Aeronautics Authority and thus centralize all non-military aviation in the United States under one federal body, finally became the unfinished business on the floor of the House of Representatives at 3:30 p.m. May 9 and for two and one half hours had domestic aviation in high hopes that the 75th Congress was at last about to do something to stabilize air transportation.

At 6 p.m., however, the show was over in the House for that week. The Lea bill was scheduled to come up again for further debate and final action May 16.

Chief result of the two and one-half hour debate was the defeat, by a 72 to 46 vote, of an amendment which would have placed civil aviation under the control of the Interstate Commerce Commission rather than under an independent Civil Aeronautics Authority.

With three additional amendments yet to be considered, the House majority leader realized that the time required for debate would be more than was available May 9 for a vote on the bill as a whole. Consequently the bill was side-tracked for a week in favor of the government's recovery and relief bill.

Despite the delay necessitated by consideration of amendments, observers agreed that the bill will have no difficulty passing the House once the amendments are out of the way.

In the Senate, quiet committee maneuvering seemed to indicate that the McCarran bill in one of its various forms might come up for floor consideration sponsored by the Copeland Commerce committee. Up to May 9 it had been expected that the Wheeler Interstate and Foreign Commerce committee was to be the sponsoring committee, but Wheeler's protracted absence from the capital on official business has delayed his committee's work on aviation regulation. At the moment of writing it appeared that the Senate might obtain action on aviation legislation before the House completes its work.

During the House debate May 9,

Chairman James Mead of the important Post Office and Post Roads committee strongly urged immediate establishment of an independent aviation commission, saying—"Without an exception, all investigations, departmental as well as independent investigations, investigations that knew about the efficiency of the I.C.C. and about the regulation of aviation by the Department of Commerce and also of the sponsoring of aviation by the Post Office Department, recommended the establishment of an independent aviation commission, exactly as is contained in the bill brought in by this committee."

In opposing the amendment to substitute I.C.C. for the new Civil Aeronautics Authority, Mr. Mead pointed out that the I.C.C. is apparently about 18 months behind its work under the Air Mail Act of 1934 with respect to the review of rates for air mail compensation, is nearly two years behind in carrying out the provisions of the Motor Bus Regulation Act and far behind in trying to give the country effective administration of railroad transportation.

Following the remarks of Mr. Mead, Congressman Carl E. Mapes, of Michigan, came to the defense of the I.C.C., stating that if the I.C.C. is behind in its work it is the fault of the Congress for not providing adequate funds for the Commission to do the work which has been assigned to it.

O'MAHONEY

(Continued from page 1)

providing an additional daily mail schedule over the heavily loaded mail route between Chicago and Salt Lake City as well as added service on TWA's Route 2.

The Post Office authorization of added pay schedules on these routes cancels the order of last December providing for extra sections or emergency trips on the above routes whenever the mail load exceeded 1,200 pounds. Although the increased appropriation is not available until July 1, 1938, the Post Office Department is able to authorize part of the anticipated additional service six weeks early because the very low bids on contracts awarded last fall have left an unexpected balance in the current appropriation.

The added schedule on TWA is a god-send to that line, as the P. O. last summer accepted from this contractor two bids of one mill a mile each on the Dayton-Chicago and Winslow-San Francisco routes. For one three-month period TWA performed 15,676,278 air mail pound miles on these routes for a total payment of \$158.66. As TWA reported a net loss of \$959,837 for the year 1937 and an additional loss of \$590,079 for the first quarter of 1938, an added appropriation for mail service is most welcome.

Senator O'Mahoney is also actively supporting Western Air Express in its application for Post Office approval of sleeper plane interchange with United Air Lines at Salt Lake City for the convenience of sleeper plane passengers en route between Los Angeles and United Air Line stops between Salt Lake City and Chicago.

In speaking on behalf of sleeper exchange at a Post Office Department hearing recently, he said: "This is a question of the convenience of the persons who are using these lines and I can see no reason in common sense nor in law why any obstruction should be raised to make it impossible for passengers to go through in the most convenient way possible."

The prohibition of the law

Pan Am to Ask BAC For Atlantic Route

Pan American Airways will file an application shortly to inaugurate trans-Atlantic air service, according to the Bureau of Air Commerce. It is not known when the company plans to begin operations, but it will probably not be for some months because of the many details that must be arranged.

Contrary to newspaper reports, which stated that the BAC would require only two round trip test flights, it is learned that the operators themselves have requested that there be eight trial crossings. Bureau regulations governing foreign operations are not expected to be in final form for a long time, and until then the BAC will apply domestic rules to these lines.

(Air Mail Act of 1934) against off-line flying was unquestionably to prevent one line from competing with another. It was not intended to prevent two lines serving different territories to make a convenient arrangement whereby the people who use those lines could use both lines in the most convenient manner possible. So I do hope that the Department will see fit to grant this application."

No Action on Profit Bill

H. R. 7777, a bill introduced by Representative Byron Scott (Cal.), exempting the aircraft industry from the Navy's 10% profit limitation, came up in the House of Representatives on May 2, but no action was taken. Congressman W. B. Umstead (N. C.) objected to a consideration of the bill until he had had a chance to study it. It is learned that the measure may come up again during the week to end May 21.

Polar Route 'Impractical'

Montreal, May 5—Commander Donald B. MacMillan, Arctic explorer, said today the air route over the north polar regions between Asia and North America is impractical because of low temperatures, long periods of darkness, and heavy and constant fog. He expressed doubt the Russian flyers are still alive.

FEEDERS

(Continued from page 1)

issue of air mail stamps will be sold in the plane.

One of the latest ideas to be approved by the P. O. is a series of large window displays planned by one of New York City's best-known department stores. Graddick states. These displays will picture the history of the air mail system.

One individual had asked the P. O. if he could carry a shipment of mail from New York to Alaska via canoe in celebration of Air Mail Week, his idea being to show the "slowest form of transportation." The P. O., however, turned thumbs down because the canoe's limited capacity would give the mail a tremendous value to cachet and stamp collectors. For the same reason the Department turned down a request to carry mail from Los Angeles to Chicago by pony express.

The amount of air mail carried on May 19 is expected to surpass all previous records. Graddick stated that a careful check of all mail carried and all routes operated will be made by the Post Office and that statistics will be kept for future reference.

Post Office Asks More Details On UAL-WAE Leasing Application

United Air Lines and Western Air Express received another set-back in their attempt to secure Post Office permission to lease sleeper planes, each from the other, at Salt Lake City, when, on May 4, Walter E. Kelly, assistant to the solicitor, adjourned the hearing on the grounds that the petition did not tell enough about the contemplated operation.

Judge Kelly stated that evidence relating to public convenience and necessity, given at the May 4 hearing, will be allowed to stand when the companies appear before the P. O. with a more detailed contract.

It was the companies' third appearance before the P. O. on this matter and a fourth hearing will probably be held in the near future. Following adjournment, Stanley Wallbank, counsel for the two lines, left for Chicago to discuss with W. A. Patterson, president of United Air Lines, and Alvin P. Adams, president of WAE, the possibility of presenting a new contract to the P. O. immediately.

The first two contracts submitted to the Department were lengthy and went into great detail concerning such matters as the number of planes owned by each company, type of insurance to be carried, how costs were to be determined each month, etc. In refusing these contracts, particularly the first one, Solicitor Karl A. Crowley had stated that they contained much information in which the Department was not interested. So in the third petition, the companies went to great pains to be brief, with the result that the petition was just over a page in length.

The new agreement did not state that the equipment was to be used for a transcontinental sleeper service from Los Angeles to Newark, but merely said that the companies wished, from time to time, to lease planes from each other at Salt Lake City. Other declarations contained in the contract were as follows: that the arrangement would not result in common control or ownership; that there would be no unfair advertising; that the arrangement could be terminated upon 30 days' notice from either party, and that there would be no increase in the cost of mail to the P. O. It was also declared in the contract that the Postmaster General did not have jurisdiction in this matter and that it

was presented to him merely to avoid the possibility of air mail contract cancellations.

TWA, represented by Gerald Brophy, counsel, opposed the granting of the petition, as did W. I. Denning, attorney for Continental Air Lines. American Airlines also submitted a brief in opposition, but was not legally represented at the hearing.

Alvin Adams testified that in the interest of public convenience and necessity, the arrangement was clearly justified. Passengers are now required to transfer from one sleeper plane to another in the middle of the night at Salt Lake City. Many complaints are received, he stated, and much more business would be forthcoming if the passengers could be assured that they could make the journey in one airplane. Upon cross-examination he declared that no administrative details had been worked out between the two companies.

It is understood that Wallbank planned to have Harold Cray, United's vice-president in charge of traffic, give testimony proving that the arrangement was not a violation of the Air Mail Act, but although Cray was present, Judge Kelly closed the session before he could testify.

The following Senators, Congressmen, state and municipal representatives appeared in favor of the arrangement: Senator Pat McCarran (Nev.), Senator Joseph C. O'Mahoney (Wyo.), Senator Edwin C. Johnson (Colo.), Congressman J. W. Robinson (Utah), Congressman C. F. McLaughlin (Neb.), Congressman Lawrence Lewis (Colo.), Congressman Fred Cummings (Colo.), Gill Robb Wilson, State of New Jersey; E. C. Meuller, Omaha Chamber of Commerce; Jack Berry, City of Cleveland; E. P. Queral, Los Angeles Chamber of Commerce; Arthur S. Dudley, Sacramento Chamber of Commerce; Robert Griffith, Las Vegas Chamber of Commerce, and H. T. Anthony, Spokane Chamber of Commerce.

In addition, 1,939 letters from Senators, Congressmen, governors, airline companies and municipalities were exhibited, all favoring the petition. Braniff Airways, Eastern Air Lines, Delta, Hanford, Pennsylvania-Central and Wyoming Air Service went on record as favoring the contract.

"We need a better picture of what the proposed operation implicates," stated Judge Kelly, adjourning session. "This document is practically worthless." Harlee Branch, Second Assistant Postmaster General, sat on the bench with Judge Kelly during part of the hearing.

Miami Show Jan. 6-8

Miami, Fla., May 9—The 11th annual All-American Air Maneuvers will be held here next Jan. 6-7-8, it was announced today. Highlights will include several cruises: one from California for the west coast area, another from Lambert Field, St. Louis, for the midwest. Canadians will hop from Montreal, and according to advance plans, mass flights will be made from Mexico and Cuba.

Warren Smith Promoted

Warren H. Smith, former traffic representative for Boston-Maine and Central Vermont Airways, has been promoted to the position of assistant traffic manager of the lines. Smith, in connection with his new post, will assume the duties left vacant by the resignation of J. V. Sheehan, general passenger agent. The new assistant traffic manager has been with the companies since 1934.

Mic
EAL's
Bids
were op
office of
ant Pos
was
figures
brackets
a mile.
trance i
new of
mitted
territori
Bids
Bism
bidders
Detro
—R. S.
Pennsyl
per mil
Phoe
—TWA
32.224.
Wich
Wahl
Airway
334.
On M
opened
Jacks
La.—N
Delta
Lines,
Air Li
Tamp
and Ta
—Easte
Airlines
23.44;
Lack
Minor
P. O.
ford A
were e
believe
officials
these c
discour
ticipati
Most
Memph
ing A
Eastern
pressed
observe
quotati
as a su
sizeable
to East
T. F.
Airlines
pect t
Orleans
tends f
Petersb
Dayton
a conn
he obt
Tri-n
into a
Detroit
twin-en
their ap
for the
Pueblo
Armstr
The
rived
deadlin
that th
the mo
Post C
routing
legal h
late bi
Solicito
from l
Wahl
Secti
Regula

Microscopic Figures Lacking In Bids Opened for Six New Routes

EAL's 17c For Tampa-Memphis Is Lowest Rate; TWA, National, and Two Small Firms Submit Bottom Prices

Bids on six new air mail routes were opened May 3 and May 10 in the office of Harlee Branch, Second Assistant Postmaster General. Major feature was the lack of microscopic figures, all figures being in the medium and higher brackets. Lowest submitted was 17¢ a mile. Another feature was the entrance into the airline system of two new operators, both of whom submitted lowest bids in their respective territories.

Bids opened May 3 were:
Bismarck to Minot, N. D.—No bidders.

Detroit to Sault Ste. Marie, Mich.—R. Stuart Weeks, 28 1/2¢ per mile; Pennsylvania-Central Airlines, 33 1/3¢ per mile.

Phoenix, Ariz., to Las Vegas, Nev.—TWA, 31¢; Western Air Express, 32.22¢.

Wichita, Kan., to Pueblo, Colo.—Wahl and Armstrong, 23.9¢; Braniff Airways, 28 1/2¢; Continental Airlines, 33¢.

On May 10 the following bids were opened:

Jacksonville, Fla., to New Orleans, La.—National Airlines System, 19 1/2¢; Delta Air Corp., 27.4¢; Eastern Air Lines, 27.78¢; Chicago and Southern Air Lines, 30 1/2¢.

Tampa, Fla., to Memphis, Tenn., and Tallahassee, Fla., to Atlanta, Ga.—Eastern Air Lines, 17¢; National Airlines System, 21¢; Delta Air Corp., 23.4¢; Chicago and Southern, 33 1/3¢.

Lack of interest in the Bismarck-Minot route came as a surprise to the P. O., according to Mr. Branch. Hanford Airlines and Northwest Airlines were expected to submit bids. It is believed that Bismarck and Minot civic officials were so certain that one of these companies would bid that they discouraged smaller operators from participating.

Most interest centered on the Tampa-Memphis route with its spur connecting Atlanta with Tallahassee, which Eastern Air Lines had publicly expressed strong desire to operate. Most observers had expected a very low quotation, and the 17¢ a mile rate came as a surprise. The new route adds a sizeable and potentially important link to Eastern's system.

T. E. Baker president of National Airlines System, apparently did not expect to win the Jacksonville-New Orleans route. His present line extends from Miami to Tampa and St. Petersburg, and through Orlando to Daytona Beach, but he will not have a connection with his new route unless he obtains an extension.

Tri-motored Stinson A's will go back into active airline service on the Detroit-Sault Ste. Marie route, while twin-engined Beechcrafts will make their appearance on domestic air routes for the first time between Wichita and Pueblo, providing that the Wahl and Armstrong bid is accepted.

The Wahl and Armstrong bid arrived 47 minutes after the 12 noon deadline. However, it was ascertained that the bid arrived by air mail during the morning and was received at the Post Office about 11 a.m. Delay in routing the bid to Mr. Branch causes a legal headache and the legality of the late bid is being determined by the Solicitor. The letter was air mailed from Rawlins, Wyo., home base of Wahl and Armstrong.

Section 1810 of the Postal Laws and Regulations states that no late bid shall

be considered, but this is qualified by the statement that "when a bid arrives by mail after the time fixed and it is shown that the nonarrival on time was due solely to the delay in the mails for which the bidder was not responsible, such bid may be considered as having arrived on time." It is expected that the P. O. will consider the Wahl and Armstrong bid legal.

R. Stuart Weeks, low bidder for the Michigan route, operates a charter service at Port Huron, Mich., and is also an airplane broker. Penn-Central's high bid was indicated to mean that because of the meager passenger business anticipated, it was willing to operate the route only with maximum mail pay.

Ellsworth Will Map Antarctic From Air

Lincoln Ellsworth announced in New York May 6 that an expedition will sail from there about Aug. 10 for Antarctica where he hopes to map from the air the Enderby Quadrant of the Antarctica continent, said to be the largest unknown territory in the world.

"I may make a flight in my Northrop Delta clear across the Antarctic continent to Little America, more than 2,000 miles away, which was also the terminus of my flight from Dundee Island two years ago," he wrote in a copyrighted story for The North American Newspaper Alliance.

Triangular flights from his base island while mapping by camera as much of the area as possible, especially the coastline, are planned, he added. He will take 16 men, including the ship's crew, plane mechanics, and a medical officer, using the ship Wyatt Earp.

Ellsworth and his wife will sail on the Europa Aug. 13. From Southampton they will fly to Arusha, near Nairobi, where they will remain until Ellsworth joins the expedition at Cape Town about Oct. 10. After additional loading, the Wyatt Earp will sail about Nov. 1 for the south.

Assistant Corps Chief

Brig. Gen. Barton K. Yount, at present in command of the 18th Composite Wing of the Army Air Corps with headquarters at Fort Shafter, Hawaii, has been named assistant chief of the Air Corps, the War Department announces. During the war he commanded the School of Military Aeronautics at Austin, Tex. Later he served as assistant Military Attache for Air in Paris and was American delegate to several international aviation conferences. He has been awarded the medal of the Legion of Honor by France and the medal of the Order of the Crown by Italy. He succeeds Brig. Gen. James E. Chaney, whose term expires July 16.

Want Air Mail

Springfield, Mass., May 6—Springfield, New Haven and Bridgeport are considering a united appeal to the Post Office Department to regain air mail service. Air Mail contract is held by American Airlines but because of DC-3 equipment, American cannot use the small airports of the three cities. There is some talk of asking the P. O. to force American to use a smaller transport to serve the three stops.

Aviation Calendar

- May 15-21—National Air Mail Week.
- May 19-22—Georgia Air Tour.
- May 24-25—Annual Spring Convention, National Battery Manufacturers Association, Statler Hotel, Cleveland.
- May 28-30—1st Annual Pacific International Air Races, Oakland, Calif.
- June 1-4-5—Dedication of Rehoboth Beach (Del.) Airport by Rehoboth Flying Club.
- June 4-5—8th Annual National Air Carnival, Birmingham, Ala.
- June 9-11—Oklahoma State Air Tour, from Tulsa.
- June 18-19—Intercollegiate Air Meet, Akron, O.
- June 19-2d Annual Santa Ana, Calif., Air Show.
- June 20—Florida Aviation Assn., Annual Meeting, Jacksonville.
- June 25-July 10—9th Annual Soaring Contest, Elmira, N. Y.
- June 28-30—Institute of the Aes. Meeting as part of Summer Meeting of the American Association for the Advancement of Science, Ottawa, Canada.
- July 30 (tentative)—Western Canada Annual Air Show, Vancouver, B. C.
- Aug. 29-Sept. 7—American Open Soaring Contest, Soaring Society of America, Frankfurt, Mich.
- Sept. 3-5—National Air Races, Cleveland.
- Sept. 11—Gordon Bennett Balloon Race, Liege, Belgium.
- Oct. 14-16-2d Annual International Aerobatic Competition and St. Louis Air Races, St. Louis, Mo.
- Nov. 14-Dec. 4-16th Annual Aeronautical Show, Paris, France.

That Pesky Indian!

When the bids on the Phoenix-Las Vegas air mail route were opened May 3 showing that TWA was lowest bidder, C. Bedell Monro, president of Pennsylvania-Central Airlines, commented to Wirt P. Scruggs, assistant to the president of TWA as follows: "What do you birds think you're going to use for passengers out there? Don't you know that the one Indian in that region moved up-state last year?"

Michigan Airport Plan

Lansing, Mich., May 10—The Michigan Board of Aeronautics has inaugurated a plan for developing airports in the state, according to announcement by Floyd E. Evans, director. Tables are being compiled showing investments already made in all airports and recommendations for their improvement together with estimated costs. The board plans to recommend the establishment of airports at the following cities this year: Monroe, Lapeer, Sandusky, Hart, Hastings, Charlotte, Mason, Stanton, Mt. Clemens, Tawas City, Paw Paw and Grayling.

Another Chicago Delay

Chicago, May 3—Efforts to enlarge Municipal Airport, now months under way, have struck a new snag which threatens to tie up expansion plans indefinitely. It is now announced that certain owners of reversionary rights are out of reach, and that until they can be found and their claims adjusted, further work is impossible without passing of enabling legislation at Springfield.

Collier Trophy Committee

The National Aeronautic Association has announced the following as members of the Collier Trophy award committee for this year: Major James H. Doolittle, Shell Oil Co., chairman; Henry B. duPont; S. Paul Johnston, editor of *Aviation*; Dr. George W. Lewis, N.A.C.A.; William B. Mayo, chairman, Michigan aeronautics commission; Leighton Rogers, president, Aeronautical Chamber of Commerce; E. P. Warner, consultant, and T. P. Wright.

Texas Plains Echo Verbal War Cries of EAL and Braniff

The controversy between Eastern Air Lines and Braniff Airways over the proposed Houston-Brownsville air mail route is continuing full blast with the Post Office Department in the middle so far. Eastern wants the P. O. to advertise the route for competitive bidding while Braniff Airways is seeking an extension of its own line between those two points to keep the route from being advertised.

Although the P. O. has kept mum on the controversy to date, it is believed the route is much nearer to being advertised for bids than heretofore.

Latest outbreak in Texas was at Corpus Christi on Apr. 26 when Capt. Eddie Rickenbacker, president of EAL, spoke before civic leaders and urged them to support EAL in its representations to the P. O. Department. The civic group pledged its support.

Several days later Charles E. "Chuck" Beard vice-president of Braniff Airways, dropped into Corpus Christi to put his company's case before the city and succeeded in obtaining considerable newspaper space in his favor. Eastern believes a through service, New York-Brownsville, is a logical and desirable development for the domestic transport system. Braniff maintains there is a negligible flow of business eastward and that its line can best serve the trade territory of Houston, Corpus Christi and Brownsville.

Big Derby Crowd

Louisville, Ky., May 7—Bowman Field accommodated a record number of planes this week-end as result of the Kentucky Derby today, but traffic was well organized as result of careful planning. Advance reservations had indicated near-capacity crowds. All planes taxied after landing to the Administration Building to unload passengers. The pilot himself (or a field attache, who was available without cost) then taxied to the gasoline pits for servicing by Louisville Flying Service. This arrangement, which had been used in eight previous Derby seasons, had proved its efficiency, by eliminating tie-ups and adding to safety. Special auto parking space was available.

Two Ramps for Gotham

New York, May 9—Two seaplane ramps on the East River are being reopened here for air-commuters, who include Henry S. Morgan, E. Roland Harriman, Wilton Lloyd-Smith, Charles W. Deeds and John S. Phipps. All own amphibians and live in Westchester or Long Island areas. The ramp at Wall St. and the river was opened today and the other, at 31st St., will be ready next week.

United on Radio

United Air Lines May 9 began use of one minute advertising announcements on radio stations in Portland, Ore.; Seattle, Los Angeles, San Francisco, Salt Lake City, Denver, Cincinnati, Des Moines and Cleveland. J. Walter Thompson Co., handles the account.

Beechcraft for Airlines?

First use of the twin-engined Beechcraft for airline service in this country may be between Wichita and Pueblo. Low bidders for the mail route were Wahl and Armstrong, of Rawlins, Wyo., and they specified the Beechcraft in their bid. Carrying six passengers, the twin-engined job was designed by Walter Beech for feeder line service. Several are in use in Canada.

Supreme Court Decision May Affect Civil Air Regulations

Department of Commerce Among Agencies Called in by Attorney General on Regulatory Practices by Federal Agencies

A decision that may have far-reaching effects upon governmental regulation of the aviation industry was handed down on April 25 by the U. S. Supreme Court in the case of the Morgan Sheep Commission Company, Kansas City, against the Department of Agriculture, in which the Court ruled that in no case shall a litigant be deprived of a full and fair hearing and that the position of the opposing party shall be known to it at all times.

In brief, the Morgan case was as follows: The Department of Agriculture, which has jurisdiction over the rates which a stockyard company may charge farmers for storing and feeding livestock, notified the company that its rates were to be reviewed. Following this a conference was held and later a hearing. The Morgan Company in its brief and arguments, contended that present rates were reasonable. However, the Secretary of Agriculture issued an order lowering these rates.

At no time during the entire hearing did the government reveal its attitude towards the situation, thus giving the plaintiff nothing upon which to base its arguments. The company asked the examiner to submit a proposed report for argument, but this was refused. It was also shown that the Secretary of Agriculture had not read thoroughly the order which he signed. Upon these points, the company took the case to court. The Supreme Court voted 6-1 to reverse the decision of the District Court, with Justice Black as the dissenter.

That the decision may affect government aviation agencies, particularly the Bureau of Air Commerce, which issues the civil air regulations, is seen in the following statement by the Court:

"The right to a hearing embraces not only the right to present evidence, but

also a reasonable opportunity to know the claims of the opposing party and to meet them. . . . Those who are brought into contest with the Government in a quasi-judicial proceeding aimed at the control of their activities are entitled to be fairly advised of what the Government proposes and to be heard upon its proposals before it issues its final command."

From this it would seem that the Court has gone on record as definitely favoring the proposed or tentative report of the type used by the Interstate Commerce Commission. All interested parties are given the right to file exceptions to the I.C.C. proposed reports and these are taken into consideration before final decision is made.

This is not done in the case of the BAC issuing civil air regulations. A conference with operators was held, but there was no hearing and interested parties were not given the opportunity to argue on a proposed report.

It is not thought that the decision will affect aviation hearings in the Post Office, because the airlines operate under contract with that department. Many government agencies, however, are considering revising rules of procedure.

It is known that the U. S. Attorney General called into conference the legal officials of all government agencies. The Department of Commerce was included. Denis Mulligan, director of the Bureau of Air Commerce, and Howard Knotts, legal consultant on the civil air regulations, were among those called.

There is some conjecture in aviation circles as to the full weight of the Supreme Court decision on matters affecting aviation, particularly the civil air regulations. It is considered probable that the Bureau will have to revise its procedure in handling violations.

American Airlines Directors

Wilmington, Del., May 5—The following directors have been elected by stockholders of American Airlines, Inc., meeting here: Amon J. Carter, Fort Worth; Silliman Evans, Nashville; James Bruce, New York; Harry E. Benedict, New York; Chandler Hovey, Boston; David S. Ingalls, Cleveland; Mark T. McKee, Detroit; C. C. Moseley, Los Angeles; C. R. Smith, president, American Airlines, Inc.; Ralph S. Damon, vice-president-operations, and Charles A. Rheinstrom, vice-president-sales.

12 Passengers, Crew Saved After Pan Am Engine Fails

A \$125,000 Pan American Airways amphibian, less than a year old, was forced down in the Caribbean Sea about 15 miles from Kingston, Jamaica, Apr. 25 and sank after 12 passengers and four crew members, mail and baggage were saved. With the port engine dead, Captain J. H. Hart landed in the sea only a short distance from the steamer Calvina, whose lifeboat crew rescued all passengers. A heavy swell was running and one pontoon was torn off when the plane hit the water. The craft was towed for about 30 minutes until it began to sink. The crew, who had remained aboard, took to an emergency rubber life raft, narrowly escaping sharks.

AFRICA AND AUSTRALIA, as well as Alaska and Canada, are developing feeder services rapidly for connections with remote areas.

Birmingham Show May Attract 150,000

Birmingham, Ala., May 5—Plans are nearing completion for the 8th annual National Air Carnival, sponsored by the Birmingham Aero Club, which will be held at Municipal Airport June 4-5. Steadham Acker, general chairman, said today, adding that the event probably will bring the largest assemblage of planes the state has ever witnessed. The Gulf Refining Co. has offered free gasoline and oil to all light planes within a radius of 300 miles of Birmingham which go to the show. Convoys of 15 or more planes are being formed in Memphis, Atlanta, and other southern cities.

The Texas-Oklahoma air tour will visit the carnival, George Haddaway, publisher of *Southern Flight*, reporting that between 50 and 100 planes will fly from those two states.

Acker, well known for his ability to stage a spectacular show, promises "an array of thrilling performances has been engaged, and an entirely different program of new acts." Army and Navy planes will participate in precision maneuvers and tentative acceptances have been received from several foreign ambassadors and consuls.

This year a number of major air lines, plane manufacturers and governors of the southeastern states will send their own beauty queens to vie for the award of "Miss American Aviation" for 1938. A banquet Saturday night and the Aviation Ball will climax the two day program.

In 1936 a one-day attendance record was set with 75,000 air fans, and the following year it was smashed with an estimated total attendance of 150,000 in one day. "And 1938 promises to set a new record by at least 20,000," Earl Wheeler, publicity director, said confidently.

Additional Propeller Order

United Air Lines has increased its order for newly developed hydromatic "full feathering" propellers to 87, representing an investment of about \$250,000. W. A. Patterson, president, announces. The 10 new 1938 Douglas Mainliners, now in service, already have this type of prop, and the entire fleet of 28 additional Douglasses will be equipped. Each propeller has three blades of 11½-ft. each.

Time Extensions for Certifications Provided by Amendments to CAR

Amendments to the civil air regulations granting time extensions for obtaining new certificates or ratings by pilots, dispatchers, approved schools and repair stations were put into effect Apr. 30 by the Bureau of Air Commerce.

Chapter 20 has been revised to permit licenses which were obtained before the new regulations went into effect to remain valid until their normal expiration date. This also extends the period during which a physical examination for student license or student certificate may be accepted for a solo certificate, from six to nine months from the date of the physical examination.

Chapter 21 is changed to extend the period for obtaining an airline pilot competency certificate from May 1, 1938, to Oct. 1, 1938, while chapter 27 has been amended to provide that until July 1, 1938, an applicant employed or formerly employed in the dispatching and flight control of aircraft in airline service may be deemed to have met the requirements of the CAR and will be

Northwest Extension

The Post Office Department announces that Northwest Airlines has been granted an extension from Yakima, Wash., to Portland, Ore., effective May 15. One round trip daily with mail will be flown over the 135-mile route.

Industry Backlog 25% Over Sales of 1937

New York, Apr. 28—Standard Statistics Co., reporting on unfilled orders of the country's 12 largest aircraft manufacturers, announces that the backlog for those firms is about \$150,000,000, or 25% more than the record sales of \$117,000,000 reported for the entire year, 1937.

The company's tabulation follows:

	Current Backlog	% of '37 Sales
Avia. Corp.	\$3,800,000	95
Bell	1,200,000	70
Boeing	14,578,000	265
Consolidtd.	10,749,000	90
Curt. Wrt.	29,455,000	122
Douglas	29,200,000	138
Fairchild	1,311,000	61
Grumman	3,250,000	138
Lockheed	5,400,000	100
Martin	13,784,000	176
N. American	11,000,000	317
United	23,810,000	81
Total ..	\$147,537,000	125

Langley Day Exhibits

Washington Air Derby Association, Inc., reports that Luscombe, Taylor-Young and Everel Propeller Co., are among exhibitors at Langley Day, to be held May 15 at the national capital's College Park Airport. Everel will display its new single bladed variable pitch product. Two new 50-hp. motors probably will be shown also. A game of air ball will be played in the afternoon, Herb Gookins said.

Piper Officials Promoted

Lock Haven, Pa., May 3—Appointment of Walton B. St. John and Ted V. Weld to higher positions was announced today by the board of directors of the Piper Aircraft Corporation. After five years as sales manager, Weld is now vice-president in charge of sales. St. John becomes sales manager, having served for three years in the sales department as field representative and assistant manager.

Canada Stiffens Test for Transport License

Ottawa, Ont., May 6—New and stricter regulations for transport pilot licenses have been announced by the civil aviation branch of the Transport Department effective July 1. Minimum age limit for a pilot receiving a license has been raised from 19 to 23 years. Maximum limit remains at 45. Instead of requiring proof of at least 250 hours in the air as pilot in sole charge of aircraft, as at present, the new regulations require 500 hours.

In testing endurance, pilots after July 1 will be sent up 12,000-ft., instead of 6,000-ft., and must remain at that height for an hour. In the night flying test the present requirement is to remain in the air for 30 minutes above the ground or water at 1,500-ft. The new rules demand the candidate to execute three flights of at least 15 minutes each at the same altitude. To the regulation governing spins has been added the phrase "without exterior view." This requires the pilot to satisfy the examiner as to his ability to recover from both left and right hand spins.

N. U. Has Flying Classroom

Chicago, May 10—A group of 150 Northwestern University sociology students studying metropolitan and suburban development were recently afforded an opportunity to survey the city from an airliner on a series of flights.



The Birdmen's Perch

FLASH! At last, a Birdmen's Perch Whopper Club! New membership restricted to yarn spinners whose whoppers on GULF AVIATION GASOLINE are judged most outlandish, and are printed on this page. Certificates of membership (see below), autographed and individually printed with illustration of the member's own particular whopper. Send your goofiest to:

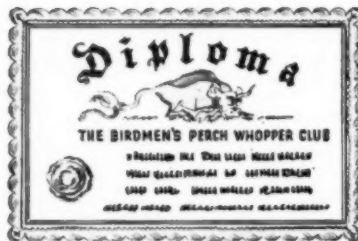
MAJOR AL WILLIAMS, alias "Tattered Wing-Tips," Mgr., Gulf Aviation Dept., Gulf Aviation Products, Gulf Bldg., Pittsburgh, Pa.

HOW ABOUT MOOSE?

Dear T.W.T.—In reference to cows always huddling with tails to the windward . . . You might tell L.C. that barnstormers in the Texas Panhandle already know how to use cows for wind-socks. Does he know that Bison are just the opposite from cows? That they invariably head *into* the wind?

—G. Christopher, T.W.A.

WHOPPER CLUB



Of special interest to those who may be even a little more "teched-in-the-haid" than the average reader of this page, we announce the charter member of the Birdmen's Perch Whopper Club—Captain J. C. Adams of Fort Lincoln, N. D.

We have mailed the Captain his duly endorsed Certificate of Membership, emblazoned with bull rampant—the illustration of his whopper published last month. He may hang it wherever he wishes, or he can just toss it in that old trunk upstairs. We don't care. But we warn him, these certificates are rare.

Member No. 2 is Lawrence Farnham of the Flying Service at Longmont. His certificate, illustrated with Col. O. U. Dope on the flying gas tank, will be mailed.

As explained above, one of these handsome documents will be awarded every month. Who's the next member?

BUGHOUSE TRAVEL

Try this problem. It's simple, and yet nine out of ten people, math sharks included, give the wrong answer!

There is a two-way, 17 hour, non-stop service between New York and San Francisco, planes leaving every hour, on the hour. Now, including the plane that is landing as we take off from New York,



and the plane that is taking off as we arrive in San Francisco, how many planes do we pass en route?

(Mail your answer to T.W.T. He'll tell you whether you're one of the puzzle-wise 10%.)

MAJOR OPERATION



Honest, a slick surgeon couldn't whisk out an ailing pair of tonsils any neater than Gulf's famous Alchlor Process yanks out the "sick" fractions of airplane oil.

For the Alchlor Process takes already refined, 100% Pennsylvania oil and further removes, literally, as much as 20% more motor-gumming sludge and waste.

That's why Gulfpride Oil, Alchlor treated, is the "world's finest" oil for planes.

THIS MONTH'S WHOPPER

Dear Mr. T.W.T.—I would swear to this, except that the notary's office is closed, and anyway it would cost me two bits.

It all started when Colonel O. U. Dope and I decided to develop a fully retractible airplane and prove that, although retractible landing gear is fine, there is a lot more drag caused by the wings, tail etc., and that they should also be retracted.

We met with some difficulty trying to

decide whether to retract the wings into the fuselage, or the fuselage into the wings, as both were to be retracted. However, this was worked out along with other details, such as locating a place to retract the motor and prop when the rest of the plane was in its retracted position.

Came the final test when the entire plane was to be retracted! After filling the tank under the seat with five gallons of Gulf Aviation Gasoline the Colonel took off to make history. At a thousand feet he began retracting the new ship . . . wings . . . motor . . . tail . . . and finally the fuselage! Then there was a flash of light, a cloud of smoke! Well . . . folks, the last I saw of Colonel Dope, he was sitting astride that five-gallon tank of Gulf Aviation Gas headed toward Australia at a terrific rate.

—Lawrence Farnham, Longmont, Colorado

P.S.—The Colonel writes that upon arriving in Australia he had to drain out the remaining four gallons of gas and smack that tank over the head with a boomerang, to prevent it returning home without him.

Gulf Oil Corporation and Gulf Refining Company . . . makers of



GULF AVIATION PRODUCTS

BAC Forms 7 Regional Districts In Effort to Unify Field Work

Efficiency, Economy Expected from Reorganization Move Started by Fagg; Plan to Be Fully in Effect July 1

In an effort to unify all field work, the Bureau of Air Commerce on May 1 announced the consolidation into seven regional districts of the present nine general inspection and the six airways districts. Each of the new divisions is to be under the jurisdiction of a regional supervisor.

This major reorganization move was originated by Fred D. Fagg, former director of the BAC, and is expected to make possible a closer coordination of the Bureau's functions with resultant efficiency and economy. Although the consolidation was effective May 1, it is not believed that it will be fully under way until July 1.

Formerly, the general inspection districts handled all regulatory functions, while the airways divisions were responsible for the construction, maintenance and operation of air navigation facilities. This necessitated reference of numerous matters to the Washington office, but under the new set-up, with a supervisor having complete charge of each district, it is hoped that the handling of such matters will be simplified.

Regional supervisors and the states comprising their districts, are as follows: District 1—John E. Sommers. Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, New York, Pennsylvania, Maryland, Delaware, Virginia, West Virginia, and the District of Columbia.

District 2—R. C. Copeland. North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and Tennessee.

District 3—Harold R. Neely. Ohio,

Indiana, Michigan, Kentucky, Illinois, Wisconsin, Minnesota and North Dakota.

District 4—L. C. Elliott. Arkansas, Louisiana, Texas, Oklahoma, and New Mexico.

District 5—Leonard W. Jurden. Iowa, Missouri, Kansas, Colorado, South Dakota and Nebraska.

District 6—J. S. Marriott. California, Nevada, Utah and Arizona.

District 7—R. D. Bedinger. Montana, Wyoming, Idaho, Oregon, Washington and Alaska.

The new supervisors, six of whom have been with the BAC for 10 years, were all appointed from within the department. Sommers has been serving as aeronautical inspector in Washington; Copeland as district manager at Atlanta, Ga.; Neely as supervising aeronautical inspector at Detroit, Mich.; Elliott as district manager at Fort Worth, Tex.; Jurden as supervising aeronautical inspector at Roosevelt Field, L. I.; Marriott as supervising aeronautical inspector at Los Angeles, Calif., and Bedinger as supervising aeronautical inspector at Oakland, Calif.

Each supervisor is now conducting a survey of his territory for the purpose of effecting any adjustments in headquarters and housing that may be needed. Although it may be necessary to move some personnel from their present stations to others, this is not expected to be on a wholesale basis. In general, it is said, the distribution and functions of personnel and offices will not be greatly changed.

Engineers Dig In

W. G. Nichols, organization engineer, and W. M. Johnson, sales engineer, both with the firm of Coverdale & Colpitts, New York industrial engineering firm, will continue to make their headquarters at the Kansas City base of Transcontinental & Western Air, Inc., during the summer. The firm is making an extended financial and economic survey of TWA.

E. C. Thomas Elevated

Everett C. Thomas, head of the insurance department of United Air Lines, has been appointed assistant secretary of the company. He joined UAL in 1929, having served in San Francisco and Seattle before moving to the Chicago office.

Draper Succeeds Smith

Tuscaloosa, Ala., Apr. 29—Owen Draper, of Tuscaloosa, has been selected by the WPA as the new airport engineer for the engineering and planning project sponsored by the State Aviation Commission to succeed Capt. Hester Smith, who resigned to join the Bureau of Air Commerce staff as district airport advisor for Texas.

New Flying Service

Sacramento, Cal., May 1—Willows Flying Service, Inc., yesterday was granted incorporation at \$25,000 and will carry on a general aviation business, including crop dusting operations and a school for pilots. Directors are F. H. Nolte, J. C. Nolte, and Milton M. Hogle, all of Willows, Cal.

Charter to Airways Group

Santa Fe, N. M., May 1—Pacific Airways, Inc. with offices here, have been chartered by the state corporation commission with authorized capital of \$200,000. However, the company begins business with \$2,000 capital. Incorporators are Francis C. Wilson, Eve Wientge and John T. Watson.

AIRLINES ON MAPS

Montana Leads Way With Other States to Follow

Salt Lake City, May 2—The 1938 state highway map for Montana shows very prominently the airlines operating over that state, according to Tom Wolfe, vice-president in charge of traffic for Western Air Express. This is the first time that Montana has included airlines on its official highway maps, and in the present instance shows Western Air, Northwest and Wyoming Air Service.

Wolfe reports that Wyoming also is to include airline routes on its highway map, and that Idaho, Utah and Nevada have likewise promised to do so. California has indicated it would do so in 1939. This movement to publicize airways on highway maps was instituted at the Western Aviation Planning Conference held last September in Sacramento. "In my opinion it is a most valuable program to the industry," Wolfe said. "I think it should be picked up and adopted by other states throughout the country."

Ahead on Louisville Port

Louisville, Ky., Apr. 28—First concrete has been poured on what will result in approximately 11,000 lineal feet of concrete runways, 100-ft. wide, including connecting strips, at Bowman Field. Three runways, the longest 3,500-ft. long, the shortest 300-ft. long, will be built, and all ends will have a turn-around circle 150-ft. across. The project will cost \$300,000 and should be completed early in November. WPA crews are used. Al Near, field superintendent, has so arranged the work that at no time will more than one-third of the field be out of use. The new runways are east-west, northwest-southeast, and northeast-southwest.

Longest Nonstop

Sometime this summer United Air Lines will inaugurate the nation's longest nonstop airline flight of 950 miles between Chicago and Denver, according to reports. American Airlines is eventually planning a one-stop service coast to coast but no existing scheduled flight comes up to the 950-mile hop to be started by UAL.

Aero. Radio Protests Frequency Allocation

Aeronautical Radio, Inc., has protested to the Federal Communications Commission over the allocation of ultra high frequencies in the bands between 30,000 and 300,000 kilocycles. Hearing is to be held June 20.

Much experimentation with ultra high frequencies had been done by Aeronautical Radio, and when the government decided to assign the frequencies permanently, the company did not feel that the 11 stations it received were sufficient to carry on its work. It is felt that the government has taken too many of the frequencies for itself and has slighted private companies.

R. C. A. Communications, Inc., Press Wireless, Inc., and Mackay Radio and Telegraph Company, Inc., have also entered protests and will appear at the same hearing.

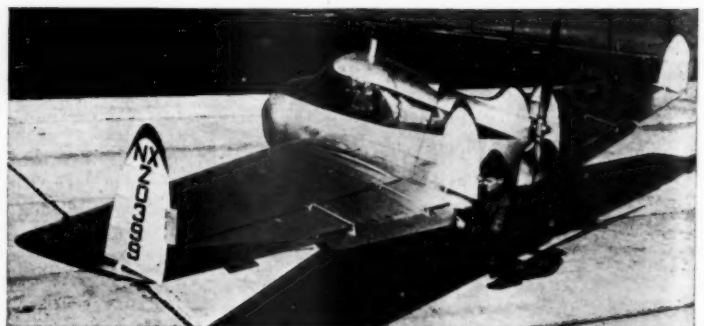
PCA Gets Chicago, Grand Rapids Route

Pennsylvania-Central Airlines has been granted an extension from Grand Rapids, Mich., to Chicago, giving the company its first entry to the midwest metropolis. The Post Office announces that the extension will be effective June 15 and that one round trip a day with mail will be operated.

Many petitions from Grand Rapids citizens urging the extension have been received by the Post Office. Most petitions have pointed out that Chicago is the country's largest furniture market, while Grand Rapids is the largest manufacturer, and that there should be an adequate air connection between the two cities.

The extension was made possible by the passage of the experimental air mail bill (H. R. 7448) which contained a provision authorizing the Postmaster General to grant extensions from any point on a route instead of from terminals only.

Bureau Experimental Plane



This tailless airplane has been built under contract by Management and Research Corp., for the Bureau of Air Commerce as one of the projects under the safety and planning program. When work on the plane is completed, the BAC plans extensive test flights. Jimmy Taylor, test pilot, is shown with the plane, which is powered by a 95-hp. Menasco engine. There are two tandem seats in the cabin. Estimated speed is 120-mph. It is steered by wing-tip rudders, and the two vertical fins at the rear of the fuselage may be used as brakes. (Wide World Photo).

AVIATION COUNCIL CREATED IN CALIF.

Chamber of Commerce and Other Representatives Organize Group for Legislative Purposes

Sacramento, Calif., Apr. 27—Formation of a California Aviation Council to present a united state-wide front on legislative matters and to promote aviation generally, was announced tonight following a meeting of aviation leaders under the sponsorship of the Sacramento Chamber of Commerce aviation committee of which Earl Lee Kelly, state director of public works, is chairman.

Arthur S. Dudley, secretary-manager of the local chamber of commerce and chairman of the aviation meeting, appointed the following committee to draw up plans for the organization: W. E. Carey, Los Angeles Chamber of Commerce; A. H. Abel, chief engineer for the Port of Oakland; Jean L. Vincenz, Fresno commissioner of public works; Henry Eickhoff, San Francisco Chamber of Commerce, and C. C. Anderson, of the Stockton Chamber of Commerce.

Delegates to the meeting pointed out that there are more pilots in California than in any other state in the Union and that it does fifty per cent of the aircraft manufacturing. The new council is to represent the industry as a whole, air carriers, private flyers, airports and local organizations. There is no state aviation commission in California.

Those attending the first meeting were:

W. E. Carey; Dale Hunter, Hunter Flying Service, Sacramento; Ivor Whitney, Whitney Flying Service, Sacramento; E. P. Querl, Los Angeles Chamber of Commerce; Dudley Steele, manager of Union Air Terminal, Burbank; Donald B. Smith, manager, Sacramento Airport; Sheldon E. Riveroll, San Jose Chamber of Commerce; Arthur Abel, Oakland Chamber of Commerce; Jean Vincenz, Fresno Chamber of Commerce; Edward J. Neron, deputy state director of public works; George T. Johnson, superintendent, Fresno Airport; Speed Wilson, Fresno; E. A. Berry, Sacramento; Henry Eickhoff, San Francisco Chamber of Commerce; Frank Fuller, San Francisco; Scott Held, San Jose; C. C. Anderson, Stockton Chamber of Commerce, and Arthur Dudley, Sacramento Chamber of Commerce.

The council will also engage in educational activities.

Legion Flies Membership Cards

Indianapolis, May 2—More than 55,000 membership cards from all parts of the country were flown into Indianapolis yesterday by 60 airplanes in the sixth annual aerial membership roundup of the American Legion.

Witnesses at Dorsey Hearing Unanimous in Praise of Giros

Wording of Bill Before House Military Affairs Committee Will Be Revised to Aid All Rotary Wing Aircraft, Sponsor Reveals

Unanimous approval of further development of rotary wing aircraft was reflected in testimony Apr. 27-28 before the House Military Affairs Committee which is studying a bill (H. R. 8143) introduced by Representative Frank Dorsey (Pa.) providing \$2,000,000 for experimentation under direction of the Secretary of War. Although the bill now specifically mentions only autogiros, Representative Dorsey said wording would be revised to include all rotary wing-aircraft—autogiros, gyroplanes, helicopters, and planes convertible to giros. This recommendation was made by several witnesses.

W. Wallace Kellett, president of Kellett Autogiro Corp., testified that government support is necessary if his company is to continue its research and development work. With a deficit of more than \$500,000, he has found it necessary to cut his staff from 100 to 50 and go into the airplane parts business to keep his firm operating.

To illustrate his remarks as to development and uses of the autogiro, Kellett showed a motion picture in the committee room.

"In the last five or six years," he said, "our government has devoted over \$50,000,000 to procurement and development of aircraft in various forms, whereas during this period only \$485,000 has been devoted to autogiro development and procurement. Obviously it is impossible to progress in the face of such limited encouragement, particularly when the development involves tremendous research and experimental expense and an organization of specially skilled engineering personnel."

"That means 3,000 engineers engaged in airplane designing and improvement as compared with 25 engineers in autogiro work. We have invested about \$700,000, and our deficit on development expenses runs up over half a million dollars. We have an expense of over \$6,000 a month to maintain this organization, and our personnel has been trained for years in designing and constructing this particular type of aircraft, which presents entirely different problems from the airplane."

Kellett emphasized that, contrary to reports of Army research work on giros, the machines used by the Army were developed entirely at expense of private capital.

Assistant Secretary of the Navy Charles Edison said "The Navy is not especially interested in the autogiro at this time, but we hope somebody else will be." Asked if he considered \$2,000,000 sufficient, Edison replied "To develop an art, that amount can only be sufficient to encourage others to spend more than that. In that regard, the appropriation will be invaluable." Edison inserted in the record a notation made by his father, Thomas A. Edison, after the inventor had witnessed a rotary wing aircraft demonstration, in which he prophesied it would prove to be the greatest step in aviation development.

Harold F. Pitcairn, president of Autogiro Company of America, said his firm has developed an improved giro incorporating many of the best features of modern transport planes and automobiles. The craft would have an all-metal body, with the engine behind the pilot and passenger, and built so its rotor blades could be folded and

the machine used as an automobile.

Capt. Boris Sergievsky, vice-president and test pilot for the Helicopter Corp. of America, reported his company has spent \$50,000 on research. He pointed out that both in propulsion and lift, rotary wing craft are more efficient than airplanes. From a national defense standpoint, he said such machines could replace observation balloons and that their mosquito-like frames would be invisible in the sky. The slow speed propellers would be almost noiseless, ground speed could be reduced to zero, and rapid changes in altitude could be made without great sidewise movement. Replying to statements that high speed helicopters could not be designed, Sergievsky said transoceanic machines carrying 16 tons load at 10,000-ft., at a speed of 310-mph. will be operating before many years.

Both Kellett and Sergievsky said giros which can make vertical "jump" takeoffs are already being built in Germany and France, and that in a short time the American companies will have such craft in production.

Prof. Alexander Klemm, dean of the Guggenheim School of Aeronautics, New York State University, said advantages of rotary wing craft have been more generally recognized in Europe where government aid has been given research workers in France, England, Poland, Italy and Germany. This type of craft involves more problems in engineering than does the airplane, he asserted.

"Research is practically at a standstill in this country," he said, "except for two or three individuals. I believe if autogiros and other rotary wing aircraft were given more aid, the immediate reaction would be to encourage young brains to devote energies to these problems. It is unfair to ask what specific improvements will be made which can be used by the Army and Navy. A fundamental piece of individual development might be the beginning of an entirely new form of aerial navigation."

Maj. Gen. Oscar Westover, chief of the Army Air Corps, said he saw "great possibilities" in rotary wing craft.

Maj. Gen. Robert M. Danford, chief of the U. S. Army Field Artillery, said, "In my opinion, tests of autogiros by the field artillery should be continued upon a high priority basis."

Maj. Gen. A. H. Sunderland, chief of coast artillery, declared autogiros would be useful in submarine spotting, and "a great aid" in scouting for long range firing. Light effects change too rapidly for airplanes to be of assistance in submarine scout work, he said.

Maj. Gen. E. C. Shannon, commander of the Pennsylvania National Guard, said giros would be valuable for carrying messages and for traffic control of troops. "If used solely to replace captive balloons, they would be worth all expenditures made for them," he declared.

Maj. W. D. Tipton, commanding air officer, Curtiss-Wright Airport, Baltimore, said, "The giro in its present state would be very useful to the Army."

Others who appeared and testified in favor of the Dorsey bill included:

William W. Brinckerhoff, secretary-treasurer, Private Fliers Association; Casey S. Jones, president, Casey Jones School of Aeronautics; Col. C. D. Vine,

\$500 'Copters

Full scale models have been completed of 300-lb. helicopters, which if produced in large quantities, could be sold for \$500 each, reported Capt. Boris Sergievsky, vice-president of the Helicopter Corp. of America to the House Military Affairs Committee Apr. 26 while that group was hearing testimony on rotary wing aircraft before approving the expenditure of \$2,000,000 for experimentation under direction of the War Department.

Only perfection of a suitable 30 or 40-hp. motor, of 2,000-rpm. which would turn the two opposite-turning air screws on the same shaft 200-rpm., is holding up production, Sergievsky said. Present models are utilizing adapted plane engines. The mosquito craft would carry one person, and sufficient additional load to include a machine gun and ammunition.

Canadian Clubs Flew 21,000 Hours in '37, Secretary Announces

Ottawa, Ont., May 6—Canadian Flying Clubs Association through G. M. Ross, executive secretary, reports that total time flown by the clubs in 1937 is almost 21,000 hours. The flying club movement in Canada, larger by far than that in the United States, was established by government order-in-council in 1928 for a three-fold purpose; to create interest in aviation, to train pilots for commercial and military flying, and to develop airports.

Through club activity, a score of new airports have been established and a daily meteorological service is furnished the dominion weather bureau at Toronto by Edmonton and Toronto flying clubs whose members make morning observation flights.

Membership fees average \$10 a person a year, and fees for flying instruction are additional. "Our club-flying plan has proved the most useful and economical plan for pilot training in the world," Ross said. "We believe, however, that a program should be launched to train at least 10,000 more pilots in Canada."

Ross estimated that more than 200 Canadian pilots who obtained licenses through the clubs have enlisted in the British Royal Air Force. Other men trained by the clubs have joined the Royal Canadian Air Force, or have entered commercial flying. Since 1930 aviation has been the predominating factor in developing the mining areas of Northern Ontario and Quebec, with planes operating out of Edmonton into the Yukon and northwest territories. Canadian companies fly more freight than is carried by air anywhere else in the world.

A HAVANA-NUOVA GERONA (Isle of Pines) passenger service has been authorized, according to the commercial attache at Havana.

director of aeronautics, State of Pennsylvania; E. Burke Wilford, president, Pennsylvania Aircraft Syndicate, Ltd., Philadelphia; Maj. Gen. Oscar Westover, chief of Army Air Corps; Maj. E. N. Harman, general staff, War Department; Col. Guy Kent, office of the Chief of Cavalry; Maj. Gen. G. A. Lynch, chief of Infantry; Dave Godwin, Forest Service; A. G. Galloway, Bureau of Entomology and Plant Quarantine; Col. Harold E. Hartney, ret., aviation technical adviser to the Senate Commerce Committee, and Dr. George W. Lewis, National Advisory Committee for Aeronautics.

BUREAU TO START MEDICAL STUDIES

Staff of Four in New Kansas City Laboratory Will Investigate Pilot Fatigue, Oxygen Lack

The Bureau of Air Commerce will begin an investigation of aviation medical problems, especially as concerns sub-satellite flying, as soon as equipment is installed in Kansas City, it has been announced. Pilot fatigue, possibility of new and more applicable physical standards for commercial and non-commercial airmen, and effects of oxygen-lack in air line transportation operations will be studied by a staff of four, to include a supervising flight surgeon, a physiologist, a medical technologist, and a clerk. In addition, special laboratory appliances which have been developed by research centers will be tested to determine their adaptability and application in clinical measurements, the Bureau announces.

"The incidence of aviation accidents in scheduled air line operations that have been due to mechanical or material failure have decreased," the Bureau reports. "It is believed that fatigue is a provocative factor in fatalities due to personnel ineffectiveness. While present methods of evaluating physical fitness should preclude the possibility of disease or disorder as an element, they do not discern fatigue. In dealing with the problem of pilot fatigue, the Bureau desires to learn the cause, the prevalence, the degree and permanence of its effects, and methods for its remedy or eradication. The objective at this time is to establish safe altitude levels that can be flown without supplementary oxygen, and to advise amounts and methods of administration where auxiliary oxygen is necessary."

PLANE RADIO TRANSMITTER frequency checks are made at Camden, N. J. airport, reports David S. Little, manager of aviation sales for RCA.



The Pioneer Coast-to-Coast Airway

★ United's arrow-straight, mid-continent route is by ten years the oldest airway between the Atlantic and Pacific. It follows the Overland Trail to California, the old Oregon Trail to the Pacific Northwest.

★ Selected by the Post Office Department in 1919 as most suitable for a cross-country air route, the "Main Line" was first to be lighted for night flying . . . first to have radio range facilities. Over this pioneer airway United now offers the finest in sleeper and day plane service. Only United links the East to all major Pacific Coast cities.

TICKETS: United Offices, Hotels, Travel Bureaus, Telegraph Offices

UNITED AIR LINES
THE "MAIN LINE" AIRWAY
A YEAR 'ROUND ROUTE

\$2,000,000 Appropriation Needed for BAC Projects, Report Shows

Safety and Planning Division to Receive Only \$258,000 for 1939; Lists 162 Present and Proposed Plans

Pointing out the need for a much larger appropriation, and listing 162 present and proposed projects, the safety and planning division of the Bureau of Air Commerce recently issued one of its most comprehensive reports in months.

The report was the result, especially with regard to new special projects, of suggestions received from "all persons in executive or authoritative positions in governmental and non-governmental aviation agencies, including Bureau of Air Commerce personnel, and in all scientific and manufacturing aviation organizations."

All projects are divided into two classes by the report: service projects, which are directed toward improved safety under existing conditions, and which are dictated by some immediate need; and planning projects, which are of a long-range nature.

"Little or nothing can be done on planning projects unless the safety and planning appropriation is sufficient to provide therefor over and above the amount required for routine projects and service projects because those two types are of an urgent nature," the report stated.

As to the amount of the appropriation required, it was stated that "the projects which are already on the schedule indicate a need for an annual safety and planning appropriation of approximately \$2,000,000, which is far more than is at present being made available." The division has been granted \$258,000 for the fiscal year 1939 and there is no indication that anywhere near the necessary amount will be forthcoming for a long time.

Because of this fact, "it is concluded that the amount of safety and planning work required to effectively discharge the obligations of the Bureau is so large in comparison with the resources available that appreciable progress can only be expected on some of the items of the most urgent nature."

All special projects, the report concludes, and particularly all planning projects, should be directed to an understanding and attainment of the conceived ultimate with reference to the following seven subjects: airways, airports and navigation facilities; air traffic control and communications; aircraft, power plants and equipment; airmen; air carrier operation; fostering air commerce, and U. S. aviation policy.

Following are some of the more important special projects which are now being undertaken and which are slated for early completion dates:

"Supervision of the performance of the existing contract with Funk Aircraft Company for an experimental airplane. Estimate completion, May 1, 1938." Work on this contract, however, is not completed as yet. The experimental plane in question is a small ship equipped with a revised automobile engine. Bureau tests are being conducted to determine whether the plane is practical.

"Supervision of the performance of the existing contract with Management and Research, Inc. for an experimental tailless airplane. Estimate completion, May 1, 1938." Work on this contract is not completed yet. Management and Research is constructing the ship for the BAC after which time its practicability will be determined.

"Supervision of the performance of the existing contract with Sperry Gyroscope Co. for an airport orientator, which is an instrument for the reproduction in the aircraft cockpit of a properly orientated chart of an airport. Contract completed and instrument delivered, Dec. 8, 1937." This instrument was flight-tested by Pennsylvania-Central Airlines and similar tests are now being conducted by American Airlines.

"Supervision of the performance of

the existing contract with Fairchild Aerial Camera Corp. for an automatic instrument log, which is an instrument for recording instrument readings and control settings in the aircraft cockpit continuously and automatically. Estimate completion, May 1, 1938." This contract is not completed, but it is understood that it will be ready in the immediate future.

"Supervision of the performance of the existing contract with Massachusetts Institute of Technology for a blind landing instrument and system. Estimate completion date Oct. 1, 1938."

"Enter into and supervise the performance of a contract with the Soaring Society of America for the compilation of a 'Glider Construction Manual' to be published by the Bureau for use in conjunction with its airworthiness regulations having to do with gliders." Although completion is estimated in the immediate future, the BAC is unable to set a definite date.

"A survey of patent laws and regulations as affecting Bureau development contracts and inventions and ideas submitted to the Bureau, and the formulation of appropriate Bureau action and policy." This report, which was estimated for completion April 15, is in the process of being prepared.

"Thorough study of the subject of dumping fuel from aircraft in flight; determination of the hazards involved and of methods for the elimination of dangerous conditions. Recommendations as to airworthiness regulations having to do with the dumping of fuel from aircraft." Estimated completion date on this project is June 1, 1938.

"Determination of requisites for a transoceanic seaplane terminal." Estimated completion was May 15, but the report has yet to be printed.

"A manual relating to all phases of airport planning, design and construction." Completion is expected about June 1, 1938.

"Investigation of apparatus designed to accomplish better reception of radio range and voice signals under static conditions, prevent diminution of hearing under conditions of rapid descent and prolong the usefulness of a pilot's career by preventing deafness." Completion is expected by May 15.

"Study of air traffic at important terminals and recommendations for relieving congestion." Completion, May 15.

"Assist Harvard University in its investigation of the radiograph method of exploring weather aloft." Completion expected in immediate future.

"Study the requirements necessary to the safety, health and comfort of scheduled airline passengers. Study includes such problems as ventilation, temperature control, lavatory facilities, determination of altitudes to which average passengers may safely ascend, and effects of rapid ascents and descents." A partial report is due July 1.

"Study and report upon the state of civil aviation in the United States as compared to other countries." Estimate completion June 1.

Many other projects are scheduled for completion between May 15 and the end of the year. Complete title of this extensive report and list is: *Development of a Safety and Planning Program*, by Richard C. Gazley. Persons desiring copies should write to the correspondence section, Bureau of Air Commerce, Department of Commerce, Washington, D. C.

A 14-TON BEACHING GEAR built for Pan American Airways sank in Baltimore harbor Apr. 29 while being towed to the airport by a launch. The gear was built in Seattle, is 30-ft. long and 15-ft. wide and, if raised, will be used to beach the new flying boats under construction. A similar Pan Am gear sank recently in San Francisco Bay.

BAC Airport Section Worried About Funds

The airport section of the Bureau of Air Commerce, foster child of the Department of Commerce and financed by WPA, is anxiously awaiting the outcome of the 1939 federal spending program to see if it is still in existence July 1. The Department of Commerce has consistently failed to make a strong fight for funds for this section out of regular appropriations and Congress at this writing does not intend to give a blanket appropriation to WPA to allocate as it wishes.

Hence the airport section has been forced to make its own appeal to the House of Representatives for funds to be specifically allocated for its work, since it will have to go out of existence if Congress fails to include a special item. For the 1938 fiscal year \$275,000 was allocated by WPA, but the airport section is asking Congress for \$300,000 for next year. Apparently it has been able to show Congress that it can save the government millions of dollars by exerting proper supervision over airport projects, and is hopeful of obtaining funds for the year starting July 1. Major A. B. McMullen, chief of the airport section, and Sam Kemp, administrative assistant, appeared before the House committee recently.

Navy's 1939 Aviation Funds Cut as BAC Gets \$3,000,000 Increase

An analysis of Navy Department and Bureau of Air Commerce 1939 appropriations shows that these departments received substantially the amounts recommended by President Roosevelt in his budget message of Jan. 3. These are the only two appropriation bills affecting aviation that have been enacted into law, although the Military Establishment and the special Navy bills are both in conference with speedy agreement expected.

The regular Navy Department appropriation bill as finally passed carries \$44,200,000 for aviation, which is \$30,000 more than the \$44,170,000 recommended by the President. The 1939 appropriation, however, is \$5,300,000 less than the \$49,500,000 granted in 1938, but this large cut is not alarming in view of the special Navy bill now pending.

A break-down of the \$44,200,000 for 1939 follows, with 1938 appropriations given in parentheses: for navigational, photographic, aerological, radio, and other equipment for use with aircraft built or building on June 30, 1938, \$968,700 (\$750,000); for maintenance, repair and operation of aircraft factory, air stations, fleet air bases, etc., \$19,069,800 (\$18,064,000); for continuing experiments and development work on all types of aircraft, \$2,903,500 (\$3,500,000); for construction and procurement of aircraft and equipment, \$21,258,000 (\$27,186,000). In addition to the amount herein appropriated, the Navy may, prior to July 1, 1940, enter into contracts for the production and purchase of new airplanes and parts to an amount not in excess of \$15,000,000 (\$15,000,000).

In the budget message it was stated that, despite the cut, "the amount requested for replacement of aircraft will be sufficient to maintain naval aviation at its present high standard of efficiency and provide some increase in the number of planes."

The 1939 Bureau of Air Commerce appropriation, which totals \$13,826,480, is only \$173,520 less than recommended by the President, and is \$2,947,980 more than was provided for 1938

TCA MAIL MAY 15

Minister of Transport Announces Winnipeg-Vancouver Flying

Ottawa, Ontario, Apr. 29.—Trans-Canada Air Lines will start regular commercial express and mail flights between Winnipeg and Vancouver May 15, C. D. Howe, minister of transport, told the commons railway committee here. At present regular training schedules are maintained each way daily between Winnipeg and Vancouver, while night flights are being made from Winnipeg to Regina. It was also revealed that the first link to be opened east of Winnipeg will extend to Kapuskasing, Ont., but no date has been set for its inaugural flights.

Equipment deliveries have been delayed, Howe said, but two new Lockheed 10s have been received with the remainder to be delivered not later than September.

Pilots Ask Subsidy

"Less regulation and more encouragement to private flying" were asked in a resolution passed by the Illinois Air Pilots Association recently for communication to Washington. Also requested were free medical examination, a direct subsidy of not less than \$30 for each renewal of license, and appointment of actual pilots as members of the new commission.

Establishment and maintenance of air navigation facilities have been awarded the largest increase.

Despite the fact that a recent safety and planning division report stated that an appropriation of \$2,000,000 was needed in order that all present and proposed projects could be carried out, that division's budget has been cut.

Analysis of the BAC's \$13,826,480, with 1938's figures in parentheses, follows: departmental salaries, \$650,000 (\$628,000); establishment of air navigation facilities, \$4,575,000 (\$2,911,800); maintenance of air navigation facilities, \$6,758,680 (\$5,538,700); aircraft in commerce, \$1,249,800 (\$1,537,000); safety and planning, \$258,000 (\$263,000); purchase and maintenance of aircraft, \$335,000 (this amount was included in the "aircraft in commerce" 1938 appropriation).

In addition to the amount appropriated for establishment of air navigation facilities, the Department may enter into contracts for the purchase, construction and installation of additional aids not in excess of \$2,000,000.

KOLLSMAN

Control of flight altitudes requires a Kollsman Sensitive Altimeter on the airplane—and accurate advice by radio of the Kollsman number for setting its barometric scale.

The Kollsman Station Barometer provides the most convenient means of determining the Kollsman number. The hands of the barometer are set to the altitude of the station, and the Kollsman number is read directly. The Kollsman Station Barometer is usually placed on the radio man's desk where he can refer to it instantly and transmit the Kollsman number when requested.

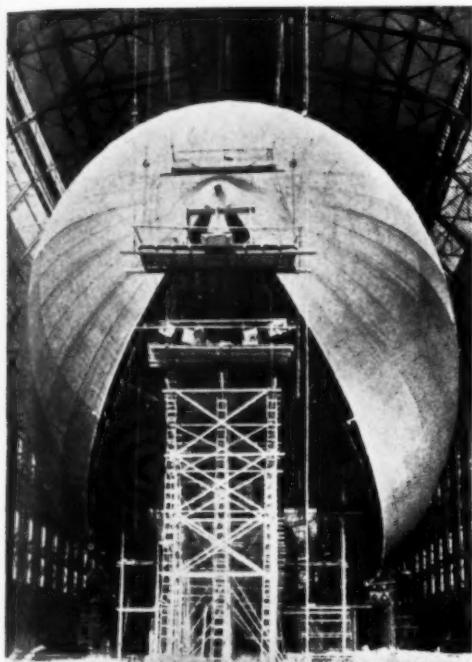
KOLLSMAN INSTRUMENT COMPANY

INCORPORATED

8008 FORTY-FIFTH AVE., ELMHURST, N. Y.

WESTERN BRANCH: GRAND CENTRAL AIR TERMINAL, QUEENSBORO, N. Y.

Its Flights Delayed By Ickes



Germany's new Zeppelin, LZ-130, shown recently still under construction, has been completed but all flights have been delayed by Interior Secretary ("Honest Harold") Ickes' refusal to release American helium, which has been contracted for in a deal approved by the State Department. Dr. Hugo Eckener, now in Washington pleading for action, was told May 11 the President had no legal right to interfere. Controlled shipments of helium would be of military importance, Ickes has held, contrary statements of high Army and Navy officials notwithstanding.

TRAFFIC

Survey Glacier Park Site

Ground and aerial surveys for a new airport for Western Air Express at Glacier National Park have been completed, in preparation for service which will probably start June 15 from Great Falls. The proposed site, is about five miles west of Browning, Mont.

WAS Carrying Passengers

Wyoming Air Service May 4 received permission to carry passengers between Cheyenne and Huron, S. D., with stops at Spearfish, Rapid City and Pierre. The company operated over the new route during the required 20-day trial period without passengers.

PCA Agreement With Pilots

The National Mediation Board reports that a mediation agreement has been signed by representatives of Pennsylvania-Central Airlines Corp. and the Air Line Pilots Association, International, arising out of a dispute in connection with establishment of a system adjustment board, and question of finality of its decisions.

Western Station Managers Named

Western Air Express has appointed Joseph L. O'Neill station manager at Butte, Mont. He was the oldest National Parks Airways employee from standpoint of service at the time WAE took over that line.

Bob Knenlein, veteran operations man, was appointed Great Falls station manager to succeed O'Neill. Bert Castellano, formerly Butte station manager, has been transferred to Salt Lake City as assistant to Frank Eastman, Salt Lake City station manager. Castellano, also an airline old timer, has been with National Parks and Western for seven years.

Robb Shifted to Phoenix

James S. Robb, former government passenger manager in Washington for American Airlines, will be transferred June 1 to Phoenix, Ariz., where he will assume the position of district sales manager for the company. He will be succeeded in the Washington office by John Delafield, former Ameri-

can sales representative in New York City.

Delta Appoints Knecht

Delta Air Lines has named Charles P. Knecht as its new traffic manager at Fort Worth. Knecht, with Delta two years, previously has been stationed at Birmingham, Monroe, Shreveport and Dallas.

35% of U. S. Mail-Express

United claims it is carrying about 35% of all air mail and express in the United States. Mail and express flown in the first quarter was about 4% below that carried in the same period of 1937.

TWA Asks for Stewards

L. M. Reed, personnel director for TWA at Kansas City, reports a flood of applications for the 25 new jobs created by adding stewards to the company's new strataliners. Winning applicants will start training in June, it was said. A catch to the story is that the stewards will be assistants to the hostesses.

American Appoints Ad Agent

American Airlines has appointed Ruthrauff & Ryan as advertising agent. P. P. Willis, who formerly handled the account of American, and who recently joined Ruthrauff & Ryan, will be the account executive.

EAL Shifts Flights

With rush tourist season closing in Florida, Eastern Air Lines has discontinued one flight in each direction between New York and Miami, leaving three round trips daily. Between Washington and Newark southbound morning flight 17 (daily) has been canceled and flights 69 and 81 (weekdays, except Saturday and holidays) have been added. Northbound daily flights 6 and 14 have been discontinued and added are flights 82 (daily) and 90, (weekdays except Saturday and holidays). Several other schedules on the system have been changed a few minutes.

Florida Network of 7 Radio Stations Transmits PX's and Hourly Weather

Florida's network of radio stations is now functioning and providing hourly weather reports from six Florida cities for transmission over Department of Commerce teletype stations to almost all major cities in the Southeast, according to a bulletin just issued by Herbert C. Whitney, director of the aviation department of the Florida state road department.

With six stations at Jacksonville, Pensacola, Tallahassee, Orlando, Tampa and Fort Myers now functioning and a seventh transmitter now complete, the state radio network not only transmits hourly weather reports from 7:30 a. m. to 3:30 p. m. but sends and receives messages concerning the movement of aircraft to and from the airports served.

Weather reports give the following information for the airport served: height of ceiling, sky conditions, visibility, weather, obstructions to vision, temperature, dew point, wind direction, wind velocity, barometric reading, condition of landing field and other notices to airmen. From Jacksonville these reports go on teletype circuits 11 and 18, extending north as far as Richmond, Va., and west as far as San Antonio.

On Jan. 1 the network began handling PX service messages concerning the movement of aircraft to and from

the airports served. During the first 73 days of 1938, Station W4XDA at Jacksonville handled 122 messages. Other stations handled the following: W4XDB, Tallahassee, 30; W4XDC, Pensacola, 23; W4XDD, Orlando, 40; W4XDE, Tampa, 75; W4XDF, Ft. Myers, 0. The total was 290.

Joseph Weil, dean of the college of engineering of the University of Florida, serves as director for the radio network project. Prof. Stephen P. Sashoff, of the Engineering Experiment Station, and Banks Duncan, chief radio operator of WRUF, serve as consultants. John P. Lenker is supervisor. Radio operators hold radio-telegraph licenses issued by the FCC and certificates of authority issued by the U. S. Weather Bureau.

The seventh station is W4XDG at Lake City, a 300-watt transmitter, and will probably be used for transmission of bulletins relative to forest fire control in addition to aviation purposes. The state network is cooperating with the Hurricane Research Project now being carried on by the University of Florida. Each station has a gas engine driven generator in case of electric power failure during storms and a portable transmitter is available for rushing to any part of the state during emergencies.

Interocean Dirigible Withdraws Statement

Attempts to finance publicly the Interocean Dirigible Corp. have been abandoned temporarily, following counsel's verbal notice to the Securities & Exchange Commission at a hearing Apr. 21 that the original statement, as amended, would be withdrawn. Up to May 10 no new statement had been filed.

The firm, announcing it would build a new type all-metal dirigible propelled by means of passing air through a tube in the craft's center, (AMERICAN AVIATION Apr. 1) planned to offer 1,250,000 shares of \$1 par value common stock. The SEC, shortly after the statement was filed, ordered the hearing to determine whether certain statements were untrue or misleading.

When the hearing opened, the corporation's attorney, A. Edward Moskowitz, sought immediate adjournment. The SEC staff could not have had sufficient time to inspect an amended statement which had been filed at 4 p. m. the preceding day, he said. The reply of John W. Clarkson, attorney for the Commission, was that there had been sufficient time, and "although

there appears to be some improvement in certain respects in the amendment, over the statement as originally filed . . . in many respects the amendments do not meet the requirements and . . . there still exist material deficiencies . . ."

The trial examiner, William W. Swift, then denied the plea for adjournment and declared the hearing would be concerned with the statement as most recently amended. Objecting vociferously, Moscovitz said he would "object to every question that can possibly be asked," next declared he could not remain longer, and when informed that the hearing would be continued without counsel for the corporation, he announced that the statement would be withdrawn. Interocean was greatly publicized in the news columns of the *New York Herald Tribune* and a few other newspapers.

19 Die in Italian Crash

One of Europe's worst air tragedies occurred Apr. 30 when an Italian seaplane of the Ala Littoria line, flying from Tirana to Rome, crashed on Mt. Maranola near Foggia, Italy, with 19 fatalities including the Albanian minister to Rome and the crew of five.

Your Best Travel BUY is BY Braniff

Get there first and get the business! Braniff Airways with its dual fleet of Douglas and Electra B-Liners offers a luxurious and convenient service. The comfortable cabins of Braniff B-Liners provide for each passenger an individual, completely adjustable seat, full-view window, individual ventilation, ash trays and reading lights. All transcontinental airlines connect with Braniff Airways to and from the great Southwest and Mexico.

For reservations and information, call your favorite travel agent, airline, telegraph company or Braniff Airways.

BETWEEN:
Chicago
Kansas City
Wichita
Oklahoma City
Dallas-Ft. Worth
Houston
Galveston
Austin
San Antonio
Corpus Christi
Brownsville
Wichita Falls
Amarillo



UAL's Cancellation Suits Heard

Government Attorneys Attempt to Have \$3,110,555 Damage Claims Ruled Out in Effort to Close Case; Plaintiff's Witnesses Deny Alleged Collusive Agreements

The long-delayed United Air Lines' suits against the United States Government, resulting from the 1934 air mail contract cancellations, were finally brought to hearing before Commissioner Richard Ackers of the Court of Claims in Washington during the week of Apr. 30, but indications are that another strategic move on the part of the government may block action for a considerable time.

Government lawyers, led by Colonel Carl Ristine, special assistant to the Attorney General, and Sam Whitaker, Assistant Attorney General of the U. S., in an unexpected move asked Commissioner Ackers to bar from the record all evidence relating to damages claimed by the plaintiff. Had this been granted, it would have ended the entire issue, for all the airlines could have claimed would have been actual mail pay due, and this amount is relatively small compared with damages asked.

Commissioner Ackers, however, stated that he would not undertake to render this decision nor would he voluntarily refer the matter to the full court. It is reliably learned that the government lawyers will request the court to ask that Ackers refer the case to it. This would mean a delay of some months. In addition, the government has been granted a continuance to May 17 at which time it will cross-examine Walter F. Brown, Postmaster General from 1929 to 1933. Following this, the government will present its own case.

Two alleged cancellation scandals were brought out and dusted off during the course of the hearing. Ristine charged that a son of the late Senator Fess of Ohio had been hired by the United Companies in 1930 to expedite passage of the McNary-Watres Act, and that he was paid \$3,000 for two days' work on Capitol Hill. It was further charged that Paul Henderson, vice-president of United Aircraft and Transport Corp. either "lent or gave" \$10,000 to Chase Gove, Second Deputy Assistant Postmaster General in 1930. The government has yet to offer proof in either case.

Suits involved in the hearing are those of United Air Lines Transport Corp., Pacific Air Transport and Boeing Air Transport. The total amount claimed is \$3,110,555.43, based on mail pay due the contractors from Feb. 1 to Feb. 15, 1934, the latter being the date of cancellations, plus anticipated mail pay the companies would have received had they been allowed to complete their route certificates to Apr. 5, 1936.

The government denies that any damages are forthcoming. In 1930, in order to allow the airlines to take advantage of the then pending McNary-Watres Act, the Postmaster General had granted extensions of contracts, and from these extensions, later issued route certificates. The government claims that the Postmaster General had no right to grant extensions, that they were illegal and that, therefore, the subsequent route certificates were also illegal. In addition, the government has filed counterclaims against the United companies, amounting to \$23,409,946.23. These are based on the claim that under the route certificates the carriers were paid "rates or compensation greatly in excess of the rates authorized by law."

It was further charged by the government that on May 19, 1930, the plaintiff entered into illegal and collusive combinations with other air mail contractors to prevent the making of bids and "to induce other persons not to bid for any air mail contract."

Most important testimony given at the hearing was by Walter F. Brown,

former Postmaster General, and P. G. Johnson, president of United at the time of the cancellations and now vice-president of Trans-Canada Air Lines. Both appeared as witnesses for the plaintiff.

Brown testified that the alleged "collusive" meeting of May 19, 1930, was held at his request in the Post Office Department and was attended by both passenger and mail carriers. The original McNary-Watres Act, which he helped draft, was designed to help passenger operators by awarding them mail contracts, he said. It permitted the awarding of such contracts by negotiation, but this met with disapproval on the Hill. Following a conference with the House Steering committee, the bill was revised to include competitive bidding.

Believing that the companies which had pioneered certain routes should be protected, Brown called the May 19 meeting in order to discuss the situation with all interested parties. Those present were asked to decide which companies had pioneered certain routes and submit these recommendations to the Postmaster General. Brown denied that this in any way could be called collusion. "The extensions granted," he said, "were not the result of the May 19 meeting."

It was also charged that Brown considered approving the subletting of mail contracts to certain passenger operators who would not otherwise be eligible to hold such contracts because they did not have the necessary six months' experience. Answering this, Brown stated, "I had no faith in the scheme to sublet contracts to give mail service to passenger operators. I never considered it seriously."

Johnson, who was "blacklisted" following the cancellations, emphatically denied that United Air Lines Transport Corp. had agreed not to bid on certain routes and further denied that his company had paid other operators not to bid on United's routes.

The reason, Johnson said, United had not bid for either of the other transcontinental routes which were subsequently advertised was that the company had neither the equipment nor the personnel to operate these lines. His company was more interested in making a unified system out of the lines it already flew, he stated.

Col. Ristine during cross-examination of Johnson, charged that the operators agreed at the May 19 meeting as to who should have certain lines without competitive bidding. Johnson denied this, stating that only recommendations were made and that these were at the specific request of the Postmaster General.

"We always cooperated with other companies insofar as was legally possible," said Johnson, but he denied that any representative of United had ever attended a secret meeting held in any Washington hotel.

W. A. Patterson, present president of United Air Lines, was called to testify concerning the company's activities after the cancellation period. He stated that when contracts were canceled, the company decided to operate passenger and express service rather than discontinue, because of its large personnel and the goodwill already built up. He also denied that United had ever entered into any agreement to prevent the making of bids.

Ralph E. Allen, assistant treasurer of United Air Lines, explained upon what grounds the damage suits were based. His figures were accepted subject to audit by the government.

Paul M. Godehn and J. Bruce



Kremer appeared as counsel for the plaintiff. In addition to Ristine and Whitaker, the government was represented by E. T. Fell and General W. W. Scott.

Continental Asks I.C.C. for Rate Increase

Hearing was held in the Interstate Commerce Commission on Apr. 26 before Examiner A. G. Nye to determine whether air mail rates on Continental Airlines' route 29, between Denver, Colo., and El Paso, Tex., are fair and reasonable. The hearing was also held in connection with Nye's proposed report which stated that Varney Air Transport, Continental's predecessor, had made unreasonable profits over the route from Feb. 1, 1935, to Mar. 31, 1937.

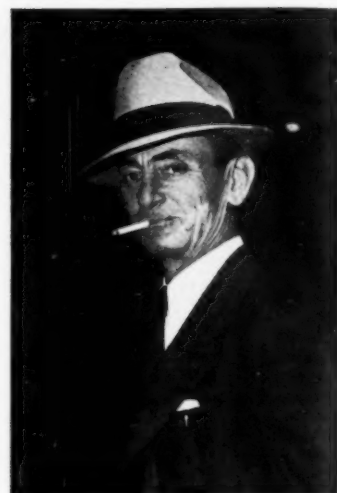
The plaintiff admitted all the facts relating to Varney in the proposed report, but nevertheless denied that the profit had been unreasonable. This denial was closely related to Continental's request for a readjustment of its present rates.

Varney, it was stated, had been able to make a fair profit only because it was operating old equipment and because its other expenses were kept at a minimum. When the Bureau of Air Commerce issued an order requiring multi-engined equipment for passenger operations, the company was forced to re-equip its line.

Since that time, and continuing up to the present, it has been impossible to make a profit, the company states. Air mail rates over AM29 are 29¢ a mile with a base of 32,000 miles a month. Continental, represented by W. I. Denning, counsel, did not ask for a specific increase in either pay or mileage, but asked the Commission for a "readjustment."

Lines End Duplication

Montreal, May 5—Hartland Molson, president of Dominion Skyways, and J. A. Richardson, president of Canadian Airways, have agreed to eliminate duplication of service to northern Quebec. The companies' air routes are to be laid out so as to avoid conflict and in some cases services will be pooled. Dominion Skyways has seven planes operating in northern Quebec and two on the Labrador coast, while Canadian Airways has about the same number.



Brazell Flight Commander

Oklahoma City, May 10—James C. Brazell, the nation's oldest licensed pilot, has been named flight commander of the Oklahoma Air Tour, which will start in Tulsa June 9 and terminate in Oklahoma City June 11. The route of the tour will be as follows: Tulsa, McAlester, Muskogee, Bartlesville, Ponca City, Blackwell, Enid, Mangum, Frederick, Lawton, Ardmore, Maysville and Oklahoma City. Present indications are that 50 planes and 150 persons will participate in the tour.

Giant Hangar Opens

Miami, Fla., May 2—Pan American Airways' new giant steel hangar, occupying 76,000-sq. ft. and affording an open floor space of 150-ft. by 180-ft., with 35-ft. clear headroom, has been placed in service at International Pan American Airport here. Two sections, one three stories high and the other two, house modern aircraft shops. In an adjoining monitor-type steel structure two stories high and 100-ft. by 180-ft., are housed the motor and machine shops, occupying 22,600-sq. ft. of floor space.

Big Plans for Vancouver

Vancouver, May 8—Plans are under study here for a new giant seaplane base in connection with the existing Sea Island airport, in anticipation of long distance ocean air service connecting Trans-Canada Air Lines with Australia by Imperial Airways.

TWA, Braniff, American Export May Be Core of Airline Combine

Financial Interests Looking to Charleston As Center of Vast Domestic and Trans-Atlantic Network

Certain New York financial interests, having failed in three previous attempts to develop a new network of airlines, have turned their attention to Charleston, S. C., as the possible base from which a fan-shaped network of both land and over-water air routes would extend.

First tangible evidence that the plan is taking shape in preliminary stages is the movement to obtain a new air mail route from Charleston to Knoxville, Louisville and St. Louis, providing a new direct feeder to transcontinental lines west of Pittsburgh and Cleveland.

The plan involves Charleston as an important base for over-water traffic from Spain, Bermuda, Nassau, Cuba and South America, feeding domestic lines westward.

Under the scheme of the financial interests, which already have Transcontinental & Western Air, Inc., as the main link of the network, Delta, Braniff and Chicago and Southern Airlines would be included, either by purchase or by some type of traffic combine. One object would be to break into the non-competitive territory now operated over by Eastern Air Lines, the financial interests having failed in their efforts to purchase Eastern and link it into the TWA system.

Another important link in the network is American Export Air Lines, directly-owned subsidiary of American Export Steamship Company, of which W. H. Coverdale is president. Mr. Coverdale is also partner in the firm of Coverdale and Colpitts, New York engineering firm which is at present engaged in an intensive survey of TWA. Several members of this firm are at present located at TWA's Kansas City base and are playing an important part in managing that airline.

These same financial interests endeavored several years ago to purchase Braniff Airways but Washington disapproved the deal. A second deal was in progress with Pennsylvania-Central Airlines but this likewise failed to materialize.

Under the present plan as visualized, air traffic would be directed from South America to Charleston instead of to Miami, and it is anticipated that if the basic domestic network is developed as planned, Pan American Airways might also feed traffic into Charleston

to take advantage of direct service westward.

American Export Air Lines which is planning Trans-Atlantic operations, would feed traffic into Charleston, and probably will attempt to tap South American trade.

Closer relations between Braniff and TWA was seen as one possible step in the direction of an alliance, with Delta as an important route to the west to Dallas and Fort Worth. The proposed Charleston-Louisville-St. Louis route would feed into Chicago and also into TWA's transcontinental route at St. Louis. Braniff's anticipated extension from Amarillo to Pueblo would also be a vital connecting link. It is known that some effort will be made to purchase Delta and Chicago and Southern.

A glance at the airways map shows what potentialities exist in such a combination of routes, affording a fan-shaped service out of Charleston and avoiding the necessity of passengers coming to Washington, Pittsburgh or Cleveland in order to go westward. Charleston is not only closer in mileage to Bermuda than other ports, but it would be a logical port for a trans-Atlantic service to the Mediterranean such as American Export plans. Also the financial interests behind the plan want to tap the South American traffic and carry as much of it on their own routes as possible.

It would be the biggest domestic and Trans-Atlantic combine so far visualized and although Pan American is not included in the deal and would be a rival of American Export, it would undoubtedly be attracted to the advantages of using Charleston, at least for some services.

Charleston is at present constructing a seaplane base to cost between \$300,000 and \$400,000. It will be suitable for the largest flying boats and, in fact, is one of the very few ports on the eastern coast available for that type of traffic. Charleston's new airport is one of the finest in the nation.

Whatever the ultimate result of efforts to obtain Delta and Chicago and Southern may be, there is considerable speculation over the possibility of an early agreement among TWA, Braniff and American Export Air Lines. The financial control of TWA and American Export is already closely linked.



These seven men are playing prominent parts in the \$3,110,555 United Air Lines suits against the government. Upper left: Col. Carl Ristine, special assistant to the attorney general, and Gen. W. W. Scott, Department of Justice consultant, confer before entering the Court of Claims. Lower left: Sam Whitaker, Assistant Attorney General, arrives to help Ristine with the government's case. At top of this page are C. C. Thompson, assistant to the president of United Air Lines and (right) W. A. Patterson, president of United. Below them are P. G. Johnson, former president of United, now vice-president of Trans-Canada, and (right) Paul M. Godehn, counsel for United, discussing Johnson's testimony.

Muskogee Opens Port
Muskogee, Okla., May 14—With completion by WPA of the north-south \$89,000 hard surface runway at municipal airport here, Muskogee is celebrating the official opening with a banquet and dance tonight, and a boys' model airplane contest, air races, stunt flying and dedication ceremonies tomorrow. The runway is 2,500-ft. long, 100-ft. wide. Paul E. Rowsey is director, Carl K. Bates is general chairman of the program.

\$25,000 California Fire
Brawley, Cal.—Seven planes, three new motors and a hangar were destroyed by fire here at an estimated total loss of \$25,000. Only one plane was believed to be insured, that owned by Ira Rogers. A Cessna 4-place cabin ship. Three dusting planes and new motors for them, owned by Mel Carberry; a 2-place Rearwin, owned by Bud Randolph; a Taylor Cub owned by Bill Wilke and Paul Sherlin, and a Rose Parakeet owned by Louie Steiner were destroyed. Three 50-gal. drums of gasoline exploded.

FINNISH AIR TRANSPORTATION
Co. planes flew 204,300 miles in 1937, compared with 142,520 miles in 1936. They carried 7,513 passengers and 369,800-lbs. of cargo in 1937 as compared with 7,858 passengers and 372,850-lbs. cargo in 1936.

Tzu

Additional Schedule for WAS Doubtful

Wyoming Air Service recently requested the Post Office Department to authorize an additional schedule between Cheyenne, Wyo., and Great Falls, Mont., but it is doubtful if this will be granted in the near future. WAS now operates one round trip daily between Cheyenne and Great Falls.

It is learned that the P. O. plans to go easy with the granting of additional schedules, and may not grant any before the first of next year unless it can see its way clear as to mileage and appropriations. Charles P. Graddick, superintendent of air mail, told AMERICAN AVIATION that the amount of money available is always indefinite because unusually heavy mail on an airline may raise that line's pay into a different bracket.

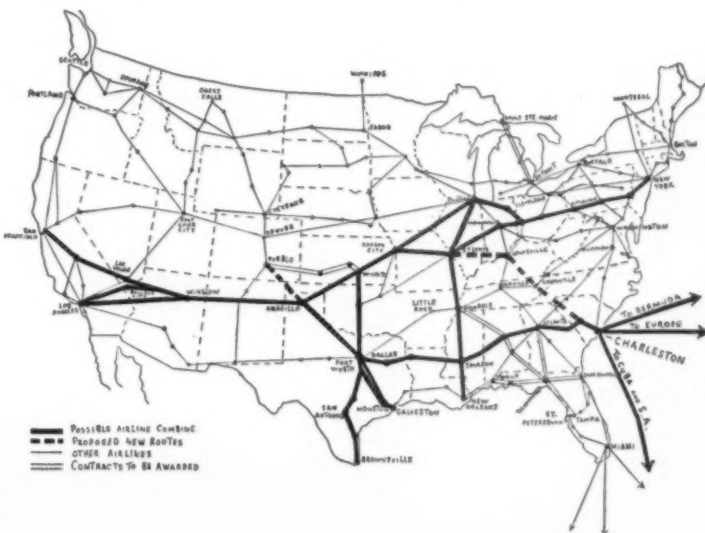
Graddick stated that he believes every airline should have at least two round trips a day, and he hopes to carry this out when more money is available.

North Air Traffic Halted

Prince Albert, Sask., Apr. 30—Winter flying in this Northern area closed this week and aircraft will now await spring break-up in the lakes before resuming activities. Pilot Bill Windrum cleared the Waskesiu Lake reserve base Apr. 28 on his last scheduled winter flight to Goldfields with a capacity mail and express load, mail poundage totaling 661-lbs., largest ever recorded on the Saskatchewan route.

Line Faces Suspension

Edmonton, Alberta, May 10—Grant McConachie, president of United Air Transport, said recently that Vancouver-Port St. John air service may be discontinued unless the company is awarded an air mail contract. The line links Vancouver with Edmonton and White Horse.



AMERICAN AVIATION

The Independent Voice of American Aeronautics

Published the 1st and 15th of each month

WAYNE W. PARRISHEditor
ALBERT H. STACKPOLEAssociate Editor
ROBERT H. WOODAssistant to the Editor
ERIC BRAMLEYNews Editor
F. G. KNIGHTCirculation Manager

Editorial and Business Office
Earle Building, Washington, D. C.

Published by American Aviation Associates, Inc., Wayne W. Parrish, President; Albert H. Stackpole, Vice-President and Edward J. Stackpole, Jr., Secretary-Treasurer, 104 Telegraph Building, Harrisburg, Pa.

Subscription Rates—\$3.00 per year—15 cents per copy

Canada—\$3.50, all other foreign—\$4.00

Permission to reprint is granted where credit to AMERICAN AVIATION is given

FORTNIGHTLY REVIEW

(Continued From Page 1)

There is a crying need for prompt and timely action on bills well considered by conscientious Congressional committees. If something should be further improved, there is always a chance to alter or amend a law at the next session. But first we must have a law to amend. A principle—a precedent—must first be established. Let us pray that the Air Line Pilots Association and the Air Transport Association and the Bureau of Air Commerce through petty quibbling may not keep scheduled air transport from its date with expansion, more jobs and bigger business in 1939.

We Have With Us Mr. Houston

ONCE in awhile one runs across a Congressman who speaks concisely and intelligently on aviation. Not the usual sort of flag-waving palaver, but with sound knowledge of what the business is all about. So it is with extreme pleasure that we turn you over to Representative John M. Houston, of Kansas, who addressed the House of Representatives May 3 in the following manner:

"The United States cannot afford to allow an industry into which \$120,000,000 of private capital have been poured within the last few years, and for which we all have entertained such high hopes, to be crippled or paralyzed; nor can the federal government afford to continue huge subsidies to air transport.

"A law must be enacted during this session of Congress that will bring order out of chaos in this industry so as to restore the confidence of the investing public and invite the flow of private capital into this all but unregulated industry, which has a vital relationship to our national defense. American aviation is ready for a nation-wide program of expansion and improvement, once it is freed from the needless restraint of existing law, and this air-transport bill will, in this period of business recession, provide the stimulus of new enterprise which is so urgently needed to swing the economic balance toward recovery. . . .

"This legislation has the approval of the aeronautical industry, the private flyers, and the executive departments which deal with civil aeronautics—the Departments of Commerce, Post Office, State, Navy, War, and Treasury.

"Congress has ample factual background for immediate action on this bill; important municipalities whose citizens have spent, in the aggregate, many millions of dollars with the aid of WPA funds to develop their airport facilities are holding the bag while the service which the airlines are eager to give them is banned for the present law. New route extensions will stimulate even greater airport and airways development, will call for the extensive manufacture of planes and will give permanent employment to new flying personnel and ground crews. Many industries and many communities will feel the impetus of this healthy expansion once Congress acts to undo its four year injustice to aviation. There is urgent need for passage of H.R. 9738 at once."

To Mr. Dwane Wallace of Cessna, to Mr. Walter Beech of Beech Aircraft and to Mr. J. E. Schaeffer of Stearman, we offer felicitations for manufacturing in a state that sends to Congress a true friend of aviation.

Private Flying

AVIATION'S public will approve the plan of the Bureau of Air Commerce to create a division for private flying. The effectiveness of such a division in fostering and promoting private flight for business, pleasure, sport and other types of non-scheduled flying must

necessarily depend upon the intelligence and problem-grasp of personnel delegated to operate that division.

What is the private flying problem? We have heard it said that there are two distinct sides in aviation today—one side, including the Bureau of Air Commerce and the scheduled air lines, while the other side includes the manufacturers and private aviation. Such a statement cannot be true because most manufacturers sell equipment to both scheduled and non-scheduled or private flyers. Furthermore, we only have to hark back two years to recall plenty of criticism of the Vidal B. A. C. regime because it neglected the airway aids principally needed by scheduled transport while much time was devoted to the private flyer and development of a popular priced airplane for private use.

During our second year as an aviation publication, AMERICAN AVIATION will be found vigorously sponsoring the development of non-scheduled flying in the United States. In this we do not expect to take a narrow or petty view in behalf of those private flyers who fail to see their proper relationship to aviation as a whole. Nor do we expect to side in with those scheduled operators who take the narrow view that they have first right on the nation's airways. We are for those developments in aviation that will bring the greatest good to the greatest number and while scheduled transport has led the way in the development of an air-minded public, we know that an era of amazing expansion in the field of private flying for business and pleasure is close upon us. We are confident that a majority of the scheduled operators realize this and know that it will be good business to help foster and encourage it. They want air-minded patrons.

There was a time when we all heard a lot of criticism about big buses on the public highways. However, the buses came to stay because they served economically a lot of people. Highways became wider and traffic control systems were worked out to accommodate both the buses and the private motorist. Our airways will be developed similarly to accommodate all classes of users in the public interest and we of AMERICAN AVIATION will strive to help various schools of thought in aviation to understand one another better. As the problems of the private flyer come up, you may expect to hear from us.

\$178,000 vs. 5 Cents

THE air service to Bermuda furnishes an excellent comparison close at hand of subsidized and unsubsidized airlines. The arrangement under which Imperial Airways began operating last year on the Bermuda run was for a straight \$89,000 cash subsidy for one year. On top of this comes mail pay, which is rather handsome, and low interest rate on purchase of equipment. The \$89,000 subsidy was for only one round-trip a week but Imperial now operates two trips a week and very possibly the subsidy has been doubled. How nice it must be to receive \$178,000 a year in addition to mail and passenger revenue!

In contrast, Pan American Airways will receive exactly five cents from the U. S. for its first year of mail operations. Its bid for the mail was negligible. It is no wonder, then, that the British have been able to provide handsomely for passenger comforts and have moved forward in commercial air transportation at such a rapid rate. Only a few months ago the total subsidy to Imperial was doubled and it amounts into millions of dollars. Recently Parliament opened a double-barreled attack on Imperial for being managed so slovenly, but instead of blacklisting Imperial managers and sending them into disgrace, the British doubled the subsidy and told them to go to work and build up an air service worthy of the British flag.

To Lower Plane Prices, Just Increase Sales!

Frank Mara, sales representative of Stinson Aircraft Corp., recently told delegates to the Michigan State Aeronautics Conference at Lansing what quantity production of private planes would do to prices, according to Robert Ball, aviation editor of *Detroit News*.

The three top-priced cars built in Detroit—Cadillac, Lincoln and Packard—average a production rate of about three daily, and sell at about \$4,000, Mara said. Stinson, Waco and Beechcraft, with one new plane every day and a half, cost the buyer about \$8,395. These are four and five passenger planes, well appointed, with top speeds of about 150 mph.

Then Mara cited Buick, with annual production of between 64,000 and 95,000, and prices ranging from \$1,300 to \$1,500. The effect diminishes somewhat as mass production is achieved, in the cases of Ford, Plymouth, and Chevrolet, where production totals from 640,000 to 1,000,000 units annually and price drops to \$785 to \$800.

What would increased production do to the Stinson price? Mara says that at one time Stinson production reached one and three-quarters planes daily and the price went to \$3,995. If production went up to three planes a day, he estimates the price would drop to between \$2,700 and \$2,900.

"Why then does not Stinson (and all the other manufacturers, for that matter) drop price and raise production? To this, Mara counters with another question: Which came first, the chicken or the egg?" Ball says.

Fol

ALLA
tech
the air



B

he's teach
His g
when sa
the coas
several
boat. I
and dev
aircooled
monopla
nautical
a 6-cyl
cooled e
governm
on recor
practical
Bonna

(Note:
ceived to
1 issue—
To the M

It is
pletely
an anno
TION of
magazin
Street
some w
the Jun
cerning
Trails t
Birdmen
Street
ing with
basis of
a Junior
At no
rangeme
Trails e
Birdmen
The J
been no
will not
Junior
Air T
as a pr
contain
ment.
Please
excellen

I S Sec
block
Departm
also ap
helium,
export
helium
What
Ickes to
enough
German
political
What i

PRIV
of
—Gill

Folks Worth Meeting

ALLAN F. BONNALIE, director of technical instruction and head of the air transportation department of Boeing School of Aeronautics, Oakland, Cal., in 1909 set a glider record of 1½ minutes' flight and has been closely associated with aviation ever since. He designed airplanes, a flying boat, and airplane engines, and now



Bonnalie

he's teaching youngsters how it's done. His glider record stood until 1926 when sail planes were introduced on the coast. In 1912 and 1914 he built several planes, including the flying boat. In 1914 he aided in designing and developing a 10-cylinder, radial aircooled engine which flew a Bleriot monoplane. In 1916 he was the aeronautical engineer and design expert on a 6-cylinder, vertical, 125-hp. water cooled engine designed for the Russian government, which was the first motor on record to pass the 50-hour test at practically full throttle.

Bonnalie enlisted in the U. S. Army

in May, 1917, and after graduation from the University of California School of Military Aeronautics, flew under the British flag and was later assigned to the Royal Flying Corps, although holding his American rank. He was commissioned as first lieutenant in April, 1918, and assigned as a flight officer of the Royal Air Force.

By the end of the war he had been awarded the British Distinguished Service Order and the U. S. Distinguished Service Cross. During the war years he had been commissioned to organize a section for development of navigation instruments and a school for advanced training of pilots. He returned to the U. S. in June, 1919, and successively served as representative for an English company and in railroad engineering. He carried on his educational work in aeronautics at the University of California Extension Division until 1929. He was chief instructor for the General School of Aeronautics in San Francisco in 1928 and joined the Boeing School in November, 1929. He has entirely designed nine planes, has re-designed as many more, and has been closely connected with development of four aviation engines. At Boeing he is in charge of all non-flying training and teaches air transportation and heads that department.

Amplification

(Note: the following letter was received too late for inclusion in the May 1 issue—Ed.)

To the Editor:

It is necessary to correct a completely erroneous impression created by an announcement in *AMERICAN AVIATION* of April 15 concerning *Air Trails* magazine.

Street and Smith was approached some weeks ago by the president of the Junior Birdmen of America concerning the possibility of making *Air Trails* the official organ of the Junior Birdmen.

Street and Smith considered cooperating with the Junior Birdmen on the basis of using its junior departments as a Junior Birdmen Section in *Air Trails*. At no time did we consider any arrangement which would place the *Air Trails* editorial policy under the Junior Birdmen supervision.

The Junior Birdmen of America has been notified that *Air Trails* magazine will not act as the official organ of the Junior Birdmen of America.

Air Trails policy remains unchanged as a popular adult aviation magazine, containing a complete junior department.

Please make the correction in your excellent magazine. Thank you.

C. B. Colby
Editor.

Obituary

JAMES D. CONDON, 43, pioneer in Pittsburgh aviation and a World War flyer, died in Chicago May 6 of a cerebral hemorrhage. He was president of Pittsburgh Airways, one of the first aviation companies organized in that area. Later he headed Central Airlines, until that company became Pennsylvania-Central Airlines Corp. At the time of his death he was president of Bamaco Manufacturing Corp., makers of bakers' supplies, and was on Governor Earle's advisory committee on aviation. Surviving are the widow, a son, and a daughter, all of Pittsburgh.

Report New Plane Engine

Cambridge, Mass., May 1—A two-stroke gasoline airplane engine said to develop 60% more power than the conventional two-stroke design is reported as a possibility growing out of research at Massachusetts Institute of Technology. The research, which is being financed by the National Advisory Committee for Aeronautics, is not finished.

When compared with the small four-stroke aviation motor, the new engine is said to be lighter for the same power, simpler in operation, and slower running, thus improving propeller efficiency. It will be considerably cheaper to manufacture. Obstacles still to be overcome are a means of running the engine as a diesel, the reduction of fuel consumption and the controlling of power.

What Others Say

IS Secretary Ickes wisely safeguarding America from possible attack when he blocks sale of helium to Germany for use in her new dirigible? The State Department didn't think so, when it approved the sale. The Navy Department also approved. And soon after the burning of the Hindenburg due to lack of helium, a letter written on the stationery of the Secretary of Interior said that export sales "can be surrounded with safeguards that will prevent the use of helium by foreign countries for military purposes."

What has changed the position of the Interior Department and caused Mr. Ickes to veto exports? Does someone think that the American people are bitter enough toward Germany that it would be politically a popular thing to deprive Germany of helium? We do not believe it. And if there be any ready to make political attack on the sale, we cannot imagine Mr. Ickes being afraid of them. What is holding helium?—*Christian Science Monitor*, May 3.

PRIVATE flying merits more attention. As we know that airlines fly but 32% of the total, we might even guess that the remaining 68% is important. —*Gill Robb Wilson, Aviation Director for New Jersey*.

YEARBOOK URGES MORE RESEARCH

Other Nations, With Unlimited Aid of Governments, Threatening U. S. Air Leadership, Mingos Says

New York, Apr. 29—Unless the United States increases its aviation research work which has been responsible for the superiority of American planes, other nations soon will take the lead and keep it because of their present huge technical development programs, according to the Aircraft Year Book for 1938, edited by Howard Mingos and published today by the Aeronautical Chamber of Commerce of America. This is the 20th annual edition and its 518 pages describe conditions as they existed at press time.

"On the principle that air strength is not only superior numbers but is primarily superiority of equipment those powers undertook to keep at least abreast of one another," the Year Book reports. "Their aerodynamic laboratories were undergoing extensive expansion at the beginning of 1938. The scientific staffs of these laboratories were being built up with the best talent available. Technicians were being placed on a par with air force pilots in the national scheme for preparedness, and air force pilots were the aristocrats of the armed services in countries where the military was supreme."

"In the United States aerodynamic research for years had been a model for the rest of the world to envy. It finally resulted in emulation. The scientists of other powers came to the United States and saw what Americans were doing, not only in their factory research and engineering laboratories but in the great government laboratories maintained by the NACA."

"Then those foreign observers went home, . . . and over a period of years they set up their own aerodynamic research plants on a scale never before attempted abroad, but which had for

\$3.00 Sightseers

San Francisco, May 2—Steve Stimpson, district traffic manager for United Air Lines, has launched what is believed to be the first sightseeing venture by a major airline. Because so many persons want to see the San Francisco Bay area from the air, company transports are being withdrawn from regular service on week-ends for sightseeing hops at \$3 for three-quarters of an hour per passenger. A stewardess is on board. Stimpson believes the idea is a good promoter of good will for the line.

an incentive the work of the NACA in the United States and its cooperation with the American aircraft manufacturers. The proof of its value lay in the superiority of American planes, the performance of which is still unexcelled despite the breakneck speed with which other nations have been trying to improve their own equipment."

The editor says it is apparent that this country must increase its research and development work, otherwise foreign powers, using all the means at their disposal, will develop aviation "far beyond that stage which will be possible here."

Correction

William E. Scripps, publisher of the *Detroit News*, was not a founder of the Early Birds as stated in the May 1 issue. Mr. Scripps was president of the Early Birds when the movement to relocate and restore the Wright Brothers' buildings was initiated and did much to see this movement brought to reality. Principal EB founders were P. G. B. (Bud) Morris, first president and present trustee, and L. A. (Jack) Vilas, current president. Present Early Bird membership is 350. To be eligible for membership, one must have flown prior to December 17, 1916.

British Shopping Tour in U. S. Result of Mismanagement, Magazine Charges

The British magazine *Flight* charges "lack of planning in the Air Ministry" is responsible for the present shopping tour of British officials in the United States, and deplores "the implied slur on the British aircraft industry," which makes it necessary "to resort to the distasteful task of washing certain linen in public." The publication asserts that purchase of four Lockheed 14s by British Airways, announced in *AMERICAN AVIATION* May 1, was "inevitable."

"If every firm in the country were working to full capacity there might be some excuse for supplementing our own production with purchases from abroad," the editorial declares in the Apr. 28 issue. "But that is not the case. Owing mainly to lack of planning in the Air Ministry, there are firms in the British aircraft industry which are laying off men because they have not sufficient work to keep them occupied. . . . The implied slur on the British aircraft industry cast by the sending of the mission to America makes it necessary to resort to the distasteful task of washing certain linen in public."

Commenting on the Lockheed order, the magazine says "While one may lament the fact, it was more or less inevitable that British Airways should go to America for its new machines. There is no comparable British type available yet, although the new D.H. 95 will provide a very good answer in about a year's time. In the meantime the company has to have aircraft and

has selected the type which most nearly fulfills its requirements. But what a commentary on the way we mismanage things! A goodish chunk of that 1½ million pounds which belated government 'generosity' has placed at the disposal of British civil aviation will now go to America, and the 'prestige' routes insisted upon by the Cadman Committee will show the flag with American aircraft. No wonder the foreigners cannot understand us!"

A. H. Self, deputy undersecretary of the British Air Ministry, has arrived in the United States to join the mission already in this country, comprising Air Commodore James G. Weir, Commander Caspar John of the Navy, Air Commodore Arthur T. Harris, Squadron Leader Charles Horrex of the Navy and test pilot for Martleson-Heath works; and Frederick Rowarth, government air engineer, ministry delegate and chief engineer of Martleson-Heath experimental works.

The French entered the picture May 7 when Paris sources said the Air Ministry had asked the French Embassy at Washington to investigate the possibility of American manufacture and delivery of warplanes for France. Francois Dcvelay, general works manager of Hispano-Suiza, who arrived in this country May 3, spiked rumors that he was a representative of the French Air Ministry. He is considering placing orders for tools and machinery for the Hispano factory, he said.

Bermuda Service: A Revelation

British Giving PAA a Run For Its Money on Passenger Comforts; Some Notebook Impressions

By W. W. P.

When one does a lot of flying about the country, a new thrill—at least on a scheduled air transport line—becomes a rarity. So when Ye Editor took off for a week's vacation in Bermuda via Pan American clipper, we didn't expect a revelation. We merely expected the thrill of getting to Bermuda in a few hours rather than spending a night or two on a boat. Putting out a magazine twice-monthly is no task for suburbanites or 9 to 5 office workers and it was only after PAA's invitation had been waiting for a good many months that we finally made up our mind to throw work aside and get a first hand look at the year-old Bermuda services operated jointly by PAA and Imperial Airways.

Due acknowledgment should be made to Col. J. Carroll Cone and Robert Thach of PAA, and to P. E. Bewshea of Imperial Airways for the courtesies of going by PAA and returning on Imperial's Short Brothers' flying boat, the *Cavalier*.

Impressions? Plenty of them. But in all frankness, and in all deference to the host on the outgoing trip, the revelation came on the return. We've been on the receiving end of a lot of subtle insinuations that the British were far behind in commercial aviation, but we can say in all candor that one of the great experiences in flying scheduled air transport lines was the New York bound flight on the *Cavalier*. It is not a matter of being unpatriotic and certainly we are well appreciative of what Pan American has done, but the British really have something!

Any domestic airline official who doesn't make at least one trip on the *Cavalier* is missing a vital experience in this air transportation business. That something is passenger comfort and a plane designed for the people who are going to pay the fares. Again, with all due respect to PAA, the two trips were as different as day and night. There is nothing in the U. S. like the *Cavalier*. Perhaps the engineers and designers will tell us that the *Cavalier* is inferior aerodynamically and otherwise. Perhaps it is slower than the *Bermuda Clipper*. We don't know. All we do know is that from the viewpoint of the discriminating passenger, we have plying between Port Washington and Bermuda a flying boat that is a revelation to the layman.

If one looks at the Bermuda service alone, Imperial is four or five years ahead of PAA—from the viewpoint of the passenger. Now we know full well that the Martin clippers on the Pacific are luxurious and were the equal or ahead of everything else in the skies when they went into service. And we know that the six huge clippers being built for PAA by Boeing in Seattle will probably set back the *Cavalier*. But the fact remains that Imperial has at least 28 of the *Cavalier* type (we believe more were ordered) and that they certainly are not the back numbered "disappointments" that we have heard about through the grapevine.

The art and science of building planes has changed so rapidly that every airline must look to replacements almost as soon as its latest fleet is in service. It is a costly and hazardous business, this airline operation. Pay-lords have been the dominant factor. The Sikorsky clippers were without peer when PAA's fleet was constructed. Pratt & Whitney engines have always

led and still lead the world. Igor Sikorsky is topmost in his field as a designer. And we know that on the Sikorsky drafting board are better and finer flying boats that will be without equal when completed.

But what is this British airline that sends to America one of its new fleet of Empire flying boats? Some years ago its old flying freight-cars were ungainly looking and slow. K.L.M., the Royal Dutch Airlines, purchased Douglas transports and put the British to shame on the Indian and Oceania services. Evidently when the British woke up, they woke up with a vengeance. Probably it is true that the *Cavalier* type was found to be unsuited for trans-Atlantic crossings. But even if it failed to meet the needs there, it has something in passenger comfort and service, which should be the envy of every American operator. Above all, it is admirably adapted to the Bermuda route.

If one wants to delve into reasons, it can easily be shown that the British subsidizes Imperial Airways very heavily. Imperial could well afford to order 28 flying boats and a whole flock of other transports—including 40-passenger landplanes—and it can well afford to operate them on a less economical basis than a private American company. The air race is getting faster and more desperate. Great Britain recognizes that cost is not the most important element.

PAA's service to Bermuda is excellent. Had we returned on the *Bermuda Clipper* we would have said it must be unique. It was convenient to board the clipper at Baltimore instead of going to Port Washington and there is something decidedly impressive about the way PAA manages the preparations for take-off. Crew and ground employes stand at attention while passengers go on board. It is all well done.

Flying from Baltimore to Port Washington in a large flying boat was a unique experience. There is water of some sort all the way to Philadelphia, but how PAA managed to get permission to fly a clipper across New Jersey must be an interesting story. It is one thing to fly a Douglas from airport to airport, but one has the feeling that a clipper is like a duck out of water when one looks down at the gently rolling farming country and U. S. Route 1. The fact that PAA is operating between two U. S. points rather breaks up the gentleman's agreement between PAA and the domestic airlines against encroaching on domestic territory but so far, evidently, Eastern Air Lines hasn't squawked about what amounts theoretically to parallel competition, although PAA does not and would not—at least right now—carry passengers only from Baltimore to Port Washington.

From Port Washington to Bermuda the trip is, of course, over water. The so-called 300-mile luncheon is a full-course meal and on our trip it consisted of appetizers, shrimp cocktail, spring chicken, creamed potatoes, salad, pastries and coffee. Catering is by the Lord Baltimore Hotel on Bermuda-bound trips.

It is a thrill to sight the Bermuda islands and to note the bright blue water, but PAA provides similar thrills on its numerous Caribbean routes. Landing is made at Darrell's Island, a small spot of land among many isles

west of Hamilton. By launch it is only 16 minutes to Hamilton. It was interesting to note that PAA supervises all landings at Port Washington and Imperial directs them at Bermuda, a nice arrangement. PAA has many more ground crew members than Imperial but this seemed to make no difference in the efficient dispatch of docking and handling of passengers.

Returning via the *Cavalier*, we boarded the launch at Hamilton, went to Darrell's Island with the other passengers, and here we obtained our first view of the *Cavalier* at close range. Instead of climbing to the hatchway and going down into the flying boat, as one does in a Sikorsky, one enters directly into the side of the *Cavalier* without climbing steps. The door is very much the same size as a door of the Douglas transport. The first view inside is breathtaking, at least to one who has not, unfortunately, seen the Martin clippers on the Pacific.

The eyes first catch the great length of the cabin. Instead of one long cabin, there are four, one to the right of the entrance and two farther to the left. There is something about cabin divisions which add to the impressive size of the interior, and in the case of the *Cavalier*, three of the cabins are on as many different levels, connected by two or three steps. So sitting in the rear cabin, one looks down through the other cabins and the whole sight is most impressive to put it mildly.

Second impression is the great height of the interior. It removes completely the feeling of being crowded. Psychologically, it is a vision into the future when flying boats will be small ocean liners built for comfort. We don't know the measurements, but we do know that the net racks for packages are so high that only a six footer could get at them conveniently, and we might add that even these racks are not at the top of the cabin.

The color scheme is arresting and soothing, a light bluish green, akin to the hue of Bermuda waters. Seats are covered to match. And yes, there are reclining seats, luxuriously comfortable. You adjust them as you wish and we would recommend that manufacturers of reclining seats for domestic transport planes take a look at what the British have to offer.

We took our seat and searched for the ever-present seat belt. None to be found! Psychologically, this is something to marvel at. Passengers were not told to keep seated for the take-off, but everyone did anyway. The steward merely stood by and held to a rail. The take-off was remarkably uneventful. One felt the tremendous pull of the engines as the boat left the water and it was all accomplished so swiftly and easily that before we knew it we were standing at the rail and looking out through a port hole to get the last few glimpses of Bermuda.

Yes, there is a rail by the portholes. One doesn't just sit at a window. One moves about in a luxury of space. There are no narrow aisles. There is actually space! And one goes to the smoking lounge not only to smoke, but to have a drink, if desired. The *Cavalier* serves anything from a whiskey and soda, pink gin, rum, sherry, cocktails, rum swizzle (a Bermuda favorite), to beer, ginger ale and orange squash. The prices are low. Cocktails are 50¢ and 55¢, but a whiskey is only 35¢. And there is a full-length lounge seat (but only one) to stretch out on and make up for sleep lost on the islands.

The *Cavalier* has twenty seats with space for one additional when required. There is no crowding. There are no cabins where two persons face two

others. All seats face either forward or, as in the smoking compartment, toward the center. An innovation for serving meals is provided in the stationary tables in front of each seat. The top is folded over when not in use but there is no hauling in of moveable trays at mealtime. The tables are always there, and because of them, the seats are not crowded closely together. One reclines without having one's knees up against the seat in front.

Then there is that indefinable something about British service which is ever-present. The British steward had been on both the African and Indian services. He was well trained, polished, quietly efficient, and added something to the psychological effect of the trip. Furthermore he had an assistant. We felt as though we were on a British steamer. Unquestionably the British have carried over into their air services the same type of passenger service they have on the sea and in their hotels.

Luncheon was a delight and had been prepared by the Belmont Manor in Bermuda. First came tomato juice, then split pea soup, then a broiled steak with potatoes and green peas. Following this came a melba salad, cheese and biscuits, a pear melba (fruit and ice cream), and coffee. It was the most elaborate meal we have ever had on an airplane. And by the way, on both the *Bermuda Clipper* and the *Cavalier*, china ware and silver are used. No paper boxes, no paper plates. Serving was exactly the same as though we had been in a hotel or restaurant.

These impressions have been written frankly and without bias. In all candor, we hadn't expected much from the *Cavalier*. Although we try to follow the formula of not believing all we hear, we had actually become prejudiced before the start. But all that changed quickly!

One wonders about PAA. Its six new Boeings will be tops in the world for everything flying over water. But what can six ships from one private company do in the face of a vast airline system such as Imperial, which is very frankly and openly subsidized? Is PAA right in opposing subsidy? Is its South American service three or four years behind the times because it has failed to keep pace with the advance in equipment and passenger service? Are payload, speed and range everything in the face of more passenger comforts which the British provide? Is America so far ahead in air transportation? These are all academic questions which we are not proposing to answer.

But here is a suggestion to Messrs. Jack Frye, Eddie Rickenbacker, C. R. Smith, W. A. Patterson and Croil Hunter. Your next air transport operators meeting should be in Bermuda. Take over the *Bermuda Clipper* and the *Cavalier* for a trip each way. Spend three or four days or a week at the Coral Island Club (best spot for swimming, rest and informality in Bermuda), hold a bang-up airline meeting mixed in with recreation, and get a glimpse first hand of both PAA and Imperial. Don't tell us there's nothing new under the sun. The trip should be a revelation. And gentlemen, let us arrange the trip. We want to go back and that's the best excuse we can find. We don't know how we'd rate as an airline operator, but we'd give a lot to see your first-hand reactions to the *Cavalier*.

Union Seeks Incorporation

Sacramento, Cal., Apr. 28—The Independent Aircraft Workers Union of America, planning headquarters in Los Angeles County, have offered articles of incorporation for filing at the Capitol.

Air
V
BAC

Every
States
for it
that f
prepar
if airp
with th
pected
McMull
of the
phazise
Aviation
Ala. As
state ar
reau off
covering
gional
Southea
Bureau
timates
Speak
airport
show th
is expe
years.
kept fle
in the
if poss
are mac
essentia
oped.
(1) a
all land
bounda
pansion
plans t
location
probabl
provisio
for lan
In c
speaker
sylvania
note" f
of adeq
ways.
"Coo
ning of
will tea
ways, i
daries,
of a n
ways.
port fa
state i
would
public
and con
a unifi
develop
In th
a Sout
lowing
classes
State
Alabam
Florida
Georgia
Kentuck
Louisian
Mississ
South
Tennes
Re
In d
of the
quired
conside
items a
Popu
area.
Post
area, v
mail a

Airport Planning on National Scale Vital to Industry, McMullen Asserts

BAC Official Points Out Methods Regions Should Adopt in Preparing Long Range Projects, and Lists Factors Determining Needed Facilities

Every community in the United States must consider carefully a plan for its own airport and the relation that field will have to master plans prepared for the state and the nation if airport development is to keep pace with the vast technical progress expected in aviation in the future, A. B. McMullen, chief of the airport section of the Bureau of Air Commerce, emphasized recently at the Southeastern Aviation Conference at Montgomery, Ala. As an example of the method each state and city should follow, the Bureau official presented a special report covering a preliminary study of a regional airport and airway plan for the Southeastern States, showing how the Bureau arrived at improvement cost estimates for each class of airport.

Speaking first for the individual city's airport plan, McMullen said it should show the field as it is now, and as it is expected to be within five or ten years. Of course, the plan would be kept flexible to keep abreast of changes in the industry. It should be drawn, if possible, before any improvements are made on the land, but it is just as essential for airports partially developed. Essential features would be (1) a topographical survey including all land within a half mile from the boundaries in the directions where expansion appears feasible, (2) building plans showing present structures and location for such future buildings as probably will be needed, (3) adequate provision for auto parking, (4) plans for landscaping and beautification.

In discussing state planning, the speaker named Michigan, Florida, Pennsylvania and Virginia as "worthy of note" for their development of chains of adequate airports and intrastate airways.

"Coordination through regional planning of the efforts of adjoining states will lead to extension of intrastate airways, in many cases across state boundaries, in which case they become part of a nationwide system of feeder airways. Unnecessary duplication of airport facilities on the two sides of a state line, where a single airport would serve, can be discouraged and public funds conserved. By studying and combining the various state plans, a unified plan for the region can be developed."

In the Bureau's preliminary study of a Southeastern Airport Plan, the following number of ports of various classes have been recommended:

State	Airport Class					Estimated Cost
	A	B	C	D	Total	
Alabama	1	11	29	68	109	\$5,979,750
Florida	2	20	15	79	116	5,676,300
Georgia	1	26	24	61	112	8,322,100
Kentucky	1	15	17	49	82	5,604,800
Louisiana	1	12	22	35	70	4,968,100
Mississippi	1	14	19	41	74	4,504,900
South Carolina	1	12	18	41	72	4,767,600
Tennessee	2	11	22	36	71	4,670,900
Region	9	121	166	410	706	\$44,494,450

In determining the location and size of the landing area and facilities required at each airport, many factors are considered by the Bureau, but the chief items are:

Population of city and its trading area.

Postal Receipts of city and trading area, which give some idea as to air mail and express.

Income Tax Returns, which indicate in a way the number of prospective plane purchasers, student flyers, airline passengers, etc.

Retail Sales of city and trading area which with the three factors mentioned above, also give some indication of the potential aviation business in the locality.

Distance between adjoining cities or airports and the area to be served by the airport.

Scheduled Airline Requirements, both interstate and intrastate, present and future.

Local Flying. Should include activities of flying schools, number of privately owned aircraft now located in the community, with particular study given number owned by commercial firms such as oil companies, manufacturers, large distributors and sportsman pilots who may be expected to purchase the larger types of planes now being manufactured, charter operations of a commercial nature, both local and itinerant. Requirements for these various types of operations should also be studied with present, immediate future and future requirements in view.

Aerial Tourist Travel, including private planes, charter operations and seasonal fluctuations of airline traffic due to tourist travel.

Topography of Immediate Vicinity. Topography such as mountains or low swampy areas may necessitate two or more small or medium cities combining their facilities in order to construct a suitable airport, due to the high cost of development and the difficulty in securing suitable sites in this type of country. Combination land and water bases may be possible and desirable in some communities.

National Defense. This important factor cannot be overlooked in planning the location or size of any civil airport. However, the proper military authorities should be consulted before any expenditures are made for facilities that are anticipated will be utilized by our military air forces.

"Before a satisfactory plan for these states can be completed, actual field investigations and surveys will have to be concluded," McMullen said, "in order to determine conditions of local flying, aerial tourist travel, and topographical conditions. In this work, local and state organizations and officials can and should take the initiative."

Junior Birdmen Launch Big Membership Drive

New York, Apr. 26—Lawrence Shaw, president and national director of the reorganized Junior Birdmen of America, today forecast an independent national youth movement with an estimated potential membership of more than 3,000,000 boys and girls between 10 and 21 years of age. There are at present over 500,000 members.

Offices have been opened in Rockefeller Center and incorporation has been completed with a number of America's aviation leaders as officers and directors. About July 1 publication of a monthly magazine will start for the non-profit membership organization formed to encourage interests of young people in aeronautics. Affiliation with the Hearst newspaper chain has been dropped.

United Taking on 35 New Pilots

Oakland, Cal., May 1—United Air Lines is hiring 35 new pilots to accommodate increased summer traffic, it was reported here today. This will give the company a total of 200 pilots, it was said. The new men are undergoing extensive ground training courses at the company's Oakland Airport base, with George I. Myers, air mail pioneer, directing. It is probable that a number of stewardesses will be hired also. At the completion of the training program, the pilots selected will be assigned to coastwise and transcontinental runs as second pilots.

Also being checked here are several captains who have been assigned to new runs. Each is making five day and night round-trips over the route, with landings at each intermediate field along the way.

BAC Chief Is No More Important Than Charlie McCarthy—Al Williams

The appointment of a new director of the Bureau of Air Commerce is of no more importance toward stabilization of the aviation industry than the delivery of a new Charlie McCarthy in Washington, in the opinion of Major Al Williams, aviation director of the Gulf Oil Corporation, writing in his daily newspaper article appearing in Scripps-Howard newspapers Apr. 27.

Without pulling any punches, Al had the following to say about the B.A.C.:

"The elevation of Denis Mulligan, the blue-eyed, eloquent Irishman from the Bronx, to succeed Fred D. Fagg, Jr., resigned, leaves the governmental regulation of the flying business in status quo. The destiny of aviation in America is still in the hands of the Assistant Secretary of Commerce, Col. J. Monroe Johnson, former paving contractor.

"The aviation industry knows this only too well, and has been hoping against hope that something will happen to give it a steady compass course and do away with arbitrary and vacil-

Detour for Geese

Trans-Canada Air Line routes may soon resemble cow paths on forthcoming maps unless the precedent set by D. B. Colyer, TCA technical chief in Winnipeg, is declared to be the last as well as first concession to hunters. Colyer agreed to re-route TCA training flights from the Grant's Lake area, spring stopping point of Manitoba's wild life, because sportsmen and conservationists complained that motor noises were diverting the annual migration of blue and lesser snow geese.

Matter of control towers has not been approached.

Newark NAA Forum

Newark, N. J.—The first Aeronautic Forum, under auspices of the local chapter of the National Aeronautic Association, recently attracted 200 Newark Civic Club members and guests. Speakers were Kern Dodge, president of the Air Defense League, W. Warren Barbour, candidate for the Republican nomination for U. S. Senator, Mayor Ellenstein, Lieut. Richard Aldworth, superintendent of Newark Airport and Major Robert L. Copsey, commander of the 109th Observation Squadron, National Guard. Casey Jones was chairman. The Forum, originated and organized by J. E. Wiedenmayer, president of the Newark NAA Chapter, is expected to be the beginning of a series of such meetings in conjunction with civic associations.

AMERICAN AIRLINES May 15 will present certificates and ruby inset pins to two stewardesses who have completed five years' service and more than 1,000,000 miles in the air. The girls, Agnes Nohava and May T. Bobeck, will be initiated into the Society of Pioneers, an honorary organization for 5-year employees.

lating decisions that leave it in the air like a ship without a rudder.

"The whole situation is due for another boiling, which I believe will eventually bring forth an Aviation Commission appointed to administer the flying affairs of the nation and regulate the activities of the industry.

"The government is charged with the responsibility of regulating the flying business, and this responsibility cannot be discharged without concentrating authority in a single regulatory body headed by a single boss. A business man who is thoroughly conversant with aviation must eventually provide the leadership so urgently needed.

"Mr. Johnson's assistant chief stirrer-up of aviation troubles is Miller Foster, a former police-court judge. His knowledge of aviation rates with, but after, that of his boss.

"Under Johnson and Foster is a competent, conscientious working force. The aircraft industry will do anything for these folks, but always with the stipulation: 'We will do it for you, but not for that bureau.'"



MICA INSULATED SPARK PLUGS

THE BG CORPORATION

Contractors to the United States Army, Navy and Coast Guard and Aircraft Engine Builders

136 WEST 52nd STREET, NEW YORK, N. Y.

Faster Service to Africa

In addition to inaugurating speedier service between England and Australia, Imperial Airways has brought Cairo, Egypt one day and five hours from Southampton and Khartoum two days one hour. Mozambique is reached in three days, 9½ hours, and Durban in 4 days 10 hours. Previous schedule to Durban required 6½ days.

Senate Gets Report Charging Bad Navy Orders Cost 31 Lives

War Games Policies Severely Criticized in Article Read by Nye; Disasters and Ebb in Morale Blamed on Faulty Strategy

A scathing indictment of Navy flying conditions during recent Pacific war games was revealed to the U. S. Senate May 3 by Senator Gerald P. Nye. The article, which Sen. Nye inserted in the *Congressional Record*, charged that flyers were compelled to take off and maneuver in impossible weather conditions and were kept on duty long hours. A small group of flyers, it continued, recently asked to be transferred to other branches of the service. There were 31 deaths in less than three months.

Excerpts from the study, supposed to have been made by two newspapermen after hours of investigation and interviewing, follow:

"A Naval board of inquiry meeting behind closely guarded doors while the whole American fleet was in Pearl Harbor this month probed deeply into one of the gravest peacetime scandals in United States Navy annals. Not a word of the testimony leaked to the press through the wall of secrecy surrounding the inquiry at America's potent Pacific defense base, but the inner facts reveal a fundamental weakness in the American Navy's policy of operating its aviation branch.

"Between Jan. 5 and Mar. 30 a total of 31 of the Navy's finest flyers crashed to their deaths at sea and seven of the latest long-range patrol bombers, each costing at least \$200,000, fully equipped, were wiped out in 'war games' near the San Diego and Hawaii bases. Eleven of the deaths occurred on the same day, Mar. 30, as the whole fleet made an attack on Hawaii under 'simulated war conditions.' The gruesome facts... don't say much for winning the next war in the air nor for the defense of the United States with the hundreds of bombers the Navy is building today.

"The death toll started as a result of the new Navy strategy developed last year. The new bombers were ordered to perform functions of scouting destroyers, to take over the scouting work of the fleet. They had to fly far to sea from shore bases, locate the enemy, report by radio and report warships' gunfire results. The Navy worked out this theory of the use of airplanes to replace destroyers as the main scouting force of the fleet. In January, during 'shake-down' tests near San Diego of the new theory, the deaths started.

"Expert analysis of . . . four . . . fatal crashes shows they were directly

due to two factors: (1) The weather was so bad that normally no plane should have been allowed to fly. (2) The pilots were so exhausted physically and mentally from long hours in the air during previous days that they should not have been permitted to go on duty.

"The Navy pilots, the men who really fly the big bombers and whose comrades are now dead, charge that the primary reason for the disastrous record of naval aviation is that the men in direct command of flight operations are not sufficiently trained and experienced for their jobs.

"All today's ranking air officers were trained in the small, slow planes of the years gone by and are not qualified to fly the fast heavy bombers the Navy is now operating, particularly in grueling formation flights at night and through storms. Their knowledge of such flying and of weather conditions is superficial.

"Navy brass hats, determined to test men and equipment under 'simulated war conditions,' permit the fundamental rules of safe flight to be violated to prove or disprove a theory. High ranking officers, who would have trouble getting a kite in the air in a gale, order the 18-ton high-speed bombers aloft under conditions in which the flyers are lucky to return alive to their bases.

"The radio silence during the recent maneuvers shut off those normal and essential radio aids which bring the planes safely into landings from zero-zero conditions. In all instances, the ill-fated bombers gave no warning of impending disaster and all were flying under radio silence.

"A check of the list of the officers in command of naval aviation shows a great majority of them spent most of their years in other branches of the service, chiefly on warships. Officers, many with political pull although never aircraft-trained, get themselves transferred to the air arm to get the extra pay and enjoy the easy assignments. . . . These officers hand out the orders, assign the bombers (which they cannot fly under all service conditions) to 'simulated war' games, and generally oversee the flying of younger men especially skilled in bomber operation. It would be just as logical for a rowboat enthusiast to be given charge of a battleship.

"The Navy pilots, who are compelled to take part in the hazardous assignments, declare the 'simulated war con-

ditions' mean the gross overworking of the flight crews which creates pilot fatigue, the dread of modern airmen. The log books show that in the current war games many of the crew flew more than 50 hours in four days. One crew had been 20 hours in the air searching for one of the lost bombers when it was ordered up again for a 9-hour flight before the men had six hours' sleep. One officer, since dead, flew 41 out of 44 hours in the 1937 maneuvers.

"After a day or two of continuous flight the flyers are near mental as well as physical exhaustion. Pilot fatigue sets in and the flyers become fearful of their reactions. In that physical and mental state, they are helpless in an emergency.

"Planes are constantly checked and tested to be kept in first-class condition, but despite the hazardous and exhausting nature of their work, Navy pilots are given normally only one physical examination a year. Other medical examinations occur only when a pilot comes up for promotion or off the sick list. This casual set-up constitutes a dangerous neglect in checking up on the conditions of the men who keep the costly defense airplanes at work.

"Regardless of their physical conditions, the flyers are compelled to take their big bombers aloft in pea-soup weather that forces even surface craft to proceed with utmost caution. The recent fatalities, and a number of other near disasters, occurred under such conditions.

"Several months ago in San Diego, after the first plane was lost, several of the North Island air-base pilots, in protest against the suicidal conditions under which they were ordered to fly, jointly turned in their wings to the officer commanding them. They were washing out of the aviation and transferred to other branches, having preferred to sacrifice their years of training to 'letting themselves be murdered.' This extraordinary scandal was hushed up. Two other San Diego bombers crashed shortly afterward.

"With the Hawaii crashes coming so soon after the San Diego deaths, near hysteria is a conservative description of the emotions in the Navy air communities in Honolulu and California. . . . Wives, whose flyer husbands still lived, begged them to quit the Navy.

"Day by day, with such monotony that the war games became a tragic pantomime to the Hawaii public, the Navy gave proof of its strategy gone tragically haywire.

"What the men who really fly the bombers want for the efficient maintenance of the Navy air arm is: (1) Creation of a separate aviation branch for the Navy similar to the Army Air Corps. (2) Command of air operations by officers who are thoroughly trained in aviation, including actual flying of the high speed bombers under

Hanford Asks I. C. C. for Higher Mail Pay

Hanford Airlines has appeared before the Interstate Commerce Commission asking that air mail pay on route 26 be raised from 32 to 33 1/3¢ per airplane mile and that the base mileage be increased from 50,000 to approximately 67,000 miles. AM26 operates between Minneapolis, Omaha, Tulsa, Bismarck and Huron.

Thomas F. Ryan III, executive vice-president, and John Collins, secretary-treasurer of Hanford, testified that factors considered by the I.C.C. in fixing the present rate have since changed materially.

These factors, it was stated, include the following: higher cost of equipment used in transporting the mails; amount of equipment needed; higher cost of materials and maintenance of equipment; increased personnel; higher salaries; increased cost of airport facilities and gasoline; federal and state unemployment compensation and old age benefit taxes; workman's compensation insurance, and increased crash insurance.

Only a comparatively slight increase in base mileage was asked in order to allow the company to stay within the 180¢ classification, i.e., to have a route on which the mileage substantially equals one round trip a day over the period of one month. Under this classification, the company's mail pay is not decreased one cent for every 10% increase in mileage.

John S. Wynne and Robert W. Oliver appeared as attorneys for the petitioner.

BRITISH GLIDING RECORD was recently broken by J. S. Fox, who covered 144 miles in a German-designed sailplane, from the Cambridge University gliding camp at Hush to Fowey, Cornwall.

'simulated war conditions.' (3) Regular and compulsory medical examination. Eight hours of bunk time during flight maneuvers, and competent medical officers to prevent over-fatigued pilots from flying. (4) Reserve personnel so that flight crews not in condition for operation will be relieved from the present overwork conditions.

"The current secret probe will probably recommend some of these changes, although the results will never be made public. Much of the truth was not told to the investigators, because the young flyers cannot tell the truth even behind closed doors. To do so would mean the loss of promotion or even discharge from the Navy."

Financial Data Prepared From Annual Reports of Aircraft Manufacturers for the Year 1937

(Courtesy Consolidated Aircraft Corp.)

	Consolidated Aircraft Corporation	Douglas Aircraft Company, Inc.	Boeing Airplane Company	Lockheed Aircraft Corporation	The Glenn L. Martin Company	North American Aviation, Inc.	Curtiss- Wright Corporation	United Aircraft Corporation	Bell Aircraft Corporation
Sales of aircraft and related products ..	\$11,907,493	\$20,950,361	\$5,545,439	\$5,209,986	\$7,839,356	\$3,469,735	\$24,116,084	\$28,671,942	\$1,707,627 ¹
Net income	462,959	1,081,513	311,683	137,919	1,144,858	496,103 ²	1,983,609	3,856,272	43,241
Earnings per share of common stock ..	.68	1.90	.51	.21	1.32	.14	.23	1.52	.25
Shares of common stock outstanding ..	574,760 Sh.	570,689 Sh.	695,671 Sh.	659,213 Sh.	870,458 Sh.	3,435,033 Sh.	8,587,460 Sh. ³	2,531,295 Sh.	170,000 Sh.
Unfilled orders at end of fiscal year	13,990,096	31,256,498	14,112,298	6,200,000 ⁴	17,624,576	9,301,127	29,455,345 ⁵	23,810,231	1,200,000
Loans and mortgages payable	None	5,230,000	54,950	400,000	1,000,000	750,000	None	100,000	None
Investment in aircraft manufacturing facilities	1,793,285	3,127,794	2,808,137	1,435,016	5,621,918	2,373,264	12,283,886	12,542,063	189,971
Annual depreciation charge on aircraft manufacturing facilities	209,135	136,434	104,901	*	*	67,779	*	646,089	20,751
Developmental expenses deferred	210,067	495,681	None	592,557	9,880	477,603	163,990	None	None
Dividends paid during year on common stock (per share)50	None	.40	None	None	.125	.50 ⁶	1.00	None
Fiscal year ends	December 31	November 30	December 31	December 31	December 31	December 31	December 31	December 31	December 31
Market quotations:									
December 31, 1937	17.88	38.75	31.88	9.50	20.50	9.00	4.00	25.63	15.25
March 29, 1938	11.00	31.63	21.63	5.88	14.50	6.00	3.50	19.88	9.00

* Not reported.

Notes:

¹ This amount includes \$1,517,817 of net sales to Consolidated Aircraft Corporation.

² This amount includes the net income of \$196,982 of Eastern Airlines.

³ This does not include 1,154,454 shares of Class A capital stock each share

of which is entitled to receive a noncumulative, preferential dividend of not in excess of \$2 a year.

⁴ This amount represents the unfilled orders as of March 15, 1938.

⁵ This amount represents the unfilled orders as of March 4, 1938.

⁶ A dividend of \$.50 a share was paid on 1,154,454 shares of Class A capital stock; none was paid on the common stock.

Douglas Official Quashes Stories DC4's to Require Super Airports

A. E. Raymond, Vice-President, Says New Ships Will Land and Takeoff on Same Length Runways as DC3's; Sees No Strato Flights for 'Many Years'

The Douglas DC-4 will require less runway length for take-off and landing than the DC-3 and no abnormal expansion of airports should be necessary to take care of transport planes of the future, according to A. E. Raymond, vice-president of the Douglas Aircraft Company, Santa Monica, who spoke at the roundtable meeting on transportation at the annual sessions of the U. S. Chamber of Commerce in Washington, D. C., on May 4.

The speaker also dispelled any prevalent ideas of "stratosphere" flying for the near future.

"Stratosphere flying is fast becoming a much abused term," he said. "The base of the stratosphere is never lower than 30,000 to 40,000-ft. and an airplane that has a maximum operating altitude of half this can scarcely be called a strato-anything. Nevertheless, an extension upward, even of moderate amount, above the present flying altitudes of 10,000 to 14,000-ft. is a worthwhile achievement. This can be accomplished on present ships by providing oxygen and on those of the future by pressurizing the crew and passenger compartments. The DC-4 will be designed for a pressure differential equivalent to about 6,000-ft. of altitude and will therefore be able to operate at from 16,000 to 20,000-ft. This is above the highest mountains of this country and above many storms. The weight and cost incident to supercharging increase rapidly with the design altitude and although this altitude will doubtless increase somewhat as time goes on, I question whether actual stratosphere flying will be economically justifiable for many years to come.

"The principal reasons for sacrificing payload to supercharging equipment are to increase safety and comfort; the supposed advantage in speed is largely nullified by the time required for ascent and descent and the higher average velocity of winds aloft which are generally westerly and oppose flights made from east to west."

Taking up the subject of airports, Mr. Raymond emphasized, "It seems to be generally thought that the DC-4 will require super-airports, and this is definitely not the case. It is true that some of the airports used at present by major cities should be enlarged, but this should be done just as much on account of present airplanes as of future ones."

From the character of service offered by the giants, it is evident that they will in general be required to land and take off at airports which are major terminals, he said. Feeder planes of the future will present no new problems. Airports used by the four-engined ships must have runways in enough directions to permit satisfactory takeoffs, paving must stand the pressure exerted by the weight supported by each wheel, runway length must be sufficient to permit discontinuance of takeoff if motor failure occurs before flying speed has been attained, and obstacles surrounding the field must be low enough to permit the plane to fly over them if engine failure occurs after flying speed is attained.

Because of the tricycle landing gear, cross-wind takeoffs with the DC-4 will be feasible. As to number of runways, then, the new plane will be less exacting than the DC-3, the Douglas executive revealed. Average pressure of the DC-4 tire on the runway will be 74-lbs. per sq. in., as compared with 50 for the DC-3, the 50% increase demanding either cement or a firmly ballasted runway. As to length of runway, any which is suitable for DC-3 operation is also adequate for the DC-4, for the larger craft will actually require 100 ft. less runway than the DC-3, he said.

"The runway length required to come to a stop if engine failure occurs just before reaching flying speed is 3,410-ft. for the DC-3 and 3,305-ft. for the DC-4, for a field at sea level, and 4,335-ft. for the DC-3 and 4,225-ft. for the DC-4 for a field at 5,000-ft. altitude."

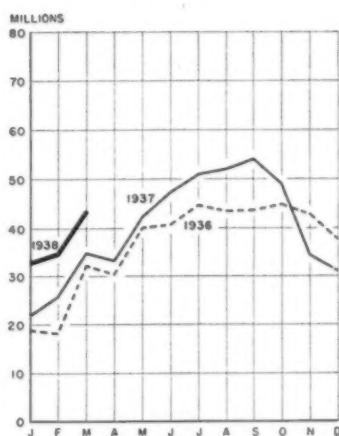
Takeoff distance over a 50-ft. obstacle if one engine fails immediately after reaching flying speed is 3,775-ft. for the DC-3 and 2,630-ft. for the DC-4 at sea level. "Any field which is satisfactory as to surrounding obstacles with respect to the DC-3 will therefore be satisfactory for the DC-4," Mr. Raymond reported.

"Landing is normally less critical as to distance required than is takeoff. The distance required to stop when landing over a 50-ft. obstacle at sea level is 1,667-ft. for the DC-3 and 1,400-ft. for the DC-4. Here again the effect of the tricycle gear is apparent."

Discussing the seating arrangement of the DC-4 (two seats on each side of the aisle), Mr. Raymond said there appeared to be little reason to suppose that anything would be gained by enlarging upon it in other future planes. Having established the number of seats per row, the number of rows then is determined by the length of the fuselage for proper proportions and by the permissible shift in balance when passengers move about. The DC-4 will have ten rows of seats, actually seating 42, due to the addition of a stateroom for extra fare passengers.

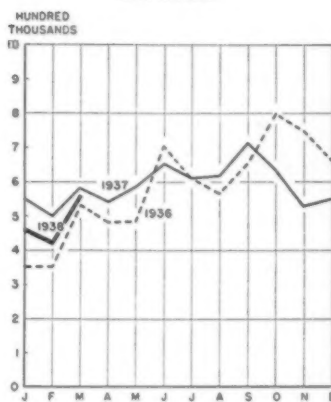
"Since these accommodations are

PASSENGER MILES
FLOWN



February: 34,387,696
March: 43,548,986

POUNDS OF EXPRESS
CARRIED



February: 421,326
March: 558,113

Insurance for Students

New York, May 5—Two schools of aeronautics, Boeing and Ryan, and 267 individual instructor pilots throughout the country, have been approved by a group of insurance companies which will offer Aero-Age accident policies at rates as low as \$10, William W. Brinckerhoff, aviation insurance representative and secretary of the Private Fliers Association, announces.

Studies Travel Progress

In a survey of transportation progress in the last ten years by railroads and airlines the *Chicago Tribune* announces that whereas railroad tickets have been reduced about 16%, airline rates are now 75% lower than in 1928. Train time between Chicago and New York has been cut 20% (effective June 15) and flying time has been reduced more than 50%.

equivalent to those in competing methods of travel I can see no reason to suppose that it will be necessary or desirable to exceed this size on future land planes. As for flying boats, the use of two decks is a logical extension of the same principle.

"There would appear to be little incentive for going still further in the future and providing more than four engines, except perhaps for transoceanic work. Such a plane must be so extremely large to meet the range with a reasonable payload that four engines of the necessary power may not be obtainable."

In considering transoceanic aircraft, the speaker said, "Such planes, if designed to take off from land, will either require special launching means or specially prepared fields of unusual length. They represent a special case and must be dealt with as such in the particular locations from which they operate, which after all will be few and far between. They are also very apt to grow to much greater sizes than the intercontinental types because of the range and payload requirements. With this single exception, however, I cannot feel that the present trend indicates that expansion of ground facilities will be needed beyond the requirements of very normal growth and it should be possible today to lay down an airport with the definite knowledge that it will serve adequately for years to come. Growing volume of traffic may require its extension, but changes in airplane design will not."

Portland Seeks \$970,000

Portland, Ore., Apr. 28—Officials of the Port of Portland have applied to the WPA for \$970,000 to complete the city's super-airport, with exception of buildings not planned in the original project. Henry L. Corbett, chairman of the port commission, said that \$642,000 allotted for the period ending June 30 is being spent on a drainage system, filling, leveling, and paving of one runway. A bond issue was voted here to buy the original site on the understanding that federal funds would be available to complete the field.

CLASSIFIED ADS

7¢ per word—minimum charge \$1.00—
Payable in advance

SIKORSKY S-39

Hamilton Standard Controllable. Plane and engine undergoing major overhaul for new license. Will be finished to buyer's specifications. Late series model. Partly modernized. Reasonable number of hours. PRICE well below market.

HEANEY LABORATORY

Hangar "C" Roosevelt Field
Mineola, N. Y.

FRANK AMBROSE, INC.

Dealers and Exporters

AIRPLANES, ENGINES, PART SUPPLIES

Office: Storeroom:
Whitestone Roosevelt Field
New York Mineola, N. Y.

Airline pilot wishes employment. Over 5,000 hours. Box 110, AMERICAN AVIATION.

A Man

Experienced in Feeder Line operation—capable of efficiently organizing and economically operating a feeder line. Record in this field will stand rigid investigation. Full-time connection, or would serve in advisory capacity.

BOX 109
AMERICAN AVIATION



"The Valley Level Route"

Celebrates two years of six-hour service between CHICAGO and NEW ORLEANS. These years have set an enviable record of dependability in two and a half million miles of scheduled flights. The management of Chicago and Southern, while taking a pardonable pride in the line's importance as a major transportation system, desires particularly to acknowledge the excellence of the products which have made this record possible. Chicago and Southern Air Lines.

Pays tribute to

LOCKHEED AIRPLANES
WRIGHT ENGINES
SHELL GASOLINE
HAMILTON STANDARD
PROPELLERS
GOODYEAR TIRES
SINCLAIR ENGINE OILS
ECLIPSE STARTERS
PIONEER INSTRUMENTS
WESTERN ELECTRIC RADIO
B. G. SPARK PLUGS
PESCO PUMPS
KOLLMAN INSTRUMENTS

Chicago &
Southern
Air Lines

IRVING ASSETS AT \$1,489,267 DEC. 31

Unnamed Foreign Subsidiary Revealed in Statement Supplementing Early \$278,643 Profit Report

The complete 1937 income report of Irving Air Chute, Inc., filed with the Securities & Exchange Commission, reveals current assets of \$1,057,698.17 and total assets of \$1,489,267.56 as of Dec. 31, 1937 for the parent and subsidiaries, which are Irving Air Chute of Great Britain, Ltd., Irvin Air Chute, Ltd. (Canada), Floyd Smith Safety Parachute Co., Floyd Smith Aerial Equipment Co., all 100% owned. A foreign subsidiary (96% owned) is shown separately, and is not named "for the reason that disclosure . . . might be detrimental to the interests of the security holders of the registrant." A net income for the year of \$278,643 was announced in AMERICAN AVIATION Feb. 15.

In the fiscal year ending Dec. 31, 1937, George Waite, general manager and director of the parent company received salary of \$25,000 and \$220 director's fee; Leslie L. Irvin, vice-president and director of the parent, and manager of the British subsidiary, received \$25,000 salary and \$40 director's fee. J. P. Halstead, sales manager of the parent, received \$6,000. Salaries and fees paid to the 10 directors, general manager, vice-president, factory superintendent and chairman of the board totaled \$53,300. The accountant and production manager together received \$7,016.

Other officers are James C. Willson, chairman and director; Roy R. Brockett, secretary and director; William H. Schwinger, treasurer and assistant secretary; Harold G. Rogers, assistant treasurer; and Directors Lawrence D. Bell, Mark A. Daly, Harley Drollinger, Frank J. Maguire, J. A. Williams.

Total inventories were placed at \$260,516.95; fixed assets, \$137,372.35; total intangible assets, \$17,354.42; Current liabilities were \$243,526.74; reserves for contingencies \$50,000; total liabilities and reserves \$293,526.74; total capital stock and surplus, \$1,195,740.82. Consolidated net sales were \$1,790,975.98; cost of sales \$1,196,601.58; gross profits, \$593,474.40; selling, administrative and general expenses, \$244,256.02; net operating income, \$349,218.38; other income, \$35,592.91; gross income \$384,811.29; income deductions, \$37,705.75; net income before taxes, \$347,105.54. Surplus on Jan. 1, 1937 was \$964,790.18, and on Dec. 31, 1937, was (capital) \$204,455.55 and (earned) \$780,285.27, total \$984,740.82.

Shown on the balance sheet are 27,906 shares of the British subsidiary, valued at \$413,511.96; 500 shares of the Canadian company, \$91,201.66; 1,000 shares of Floyd Smith Safety Parachute Co., \$226.61 (red); 10 shares of Fred Smith Aerial Equipment Co., \$25,000, for a total of \$529,487.21, plus 240 shares of the unnamed subsidiary at \$21,387.83. For the parent, 300,000 shares, \$1 par value, authorized; 197,500 shares are outstanding, exclusive of sum in treasury; 211,000 reported by balance sheet.

Total assets for the parent were \$1,355,419.59; current assets, \$586,319.29; cash on hand, \$34,543.78; inventories, \$124,002.53; total investments, \$649,592.25; total fixed assets, \$96,819.05; deferred charges, \$15,334.58.

Curtiss-Wright Quarter

Net profit for Curtiss-Wright Corp. in the first quarter of 1938 was \$733,910, or 63¢ each on 1,158,464 shares of class A stock. This compares with \$269,251, or 23¢ a share, earned in the March quarter of 1937. Figures were computed after deductions for depreciation and normal federal income taxes, but before provision for possible federal surtax on undistributed income. A propeller division of the organization was recently announced.

TWA Sets Quarter Loss at \$590,079

Transcontinental & Western Air, Inc., announces a net loss of \$590,079 for the 1938 quarter ending Mar. 31, after taxes, interest, and depreciation deductions. This compares with a net loss of \$359,933 in the first 1937 quarter.

Stearman to Become Division of Boeing

Boeing Airplane Co. will soon take over Stearman Aircraft Co., 100% owned subsidiary, and operate it as a division of the parent with existing Stearman personnel in charge, it was decided at a recent meeting of the board of directors.

Simplification of the corporate structure had been deemed advisable for tax economy.

All officers and directors were re-elected at stockholders' and directors' meetings held in Seattle.

Directors are William M. Allen, attorney; Harold E. Bowman, secretary and treasurer of Boeing Airplane Co. and secretary and treasurer of its Seattle manufacturing subsidiary, Boeing Aircraft Co.; Claire L. Egtvedt, president of the parent and president and general manager of Boeing Aircraft; P. G. Johnson, president of Kenworth Motor Truck Corp.; Fred P. Laudan, vice-president and superintendent of Boeing Aircraft; Robert J. Minshall, vice-president and chief engineer of Boeing Aircraft; Paul Pigott, president of Pacific Car & Foundry Co.; J. Earl Schaefer, vice-president of Boeing Airplane and president of the Stearman subsidiary; Dietrich Schmitz, president of Washington Mutual Savings Bank.

Bendix Suspends for Changes

Work has been suspended temporarily at the new plant of Bendix Aviation Corp., Bendix, N. J., "on account of contemplated changes in the manufacturing processes and attendant changes in the buildings themselves," according to a statement of Vincent Bendix, president. "There is also a possibility of our bringing in additional industries and expanding the new plant still further," he said.

Kinner Gets Authorization

Los Angeles, May 3—Kinner Airplane & Motor Corp., Ltd., has been authorized to amend articles of incorporation to provide for assessment on outstanding capital stock. According to the plan of the board of directors, one assessment of 10¢ a share will be levied, using income to reduce indebtedness and bolster working capital.

Lockheed Delivery Record

Los Angeles, May 1—A total of 26 all-metal, twin-engined transports were delivered by Lockheed Aircraft Corp. in the first quarter of 1938 with a dollar value of approximately \$1,796,091, including spare parts and equipment. This is a gain of about 57% over the \$1,176,047 for 21 transports delivered in the corresponding period of 1937. Backlog Mar. 31 was \$5,400,000, comparing with \$2,550,000 at the same time a year ago, and number of employees was 2,115 as compared with 1,425.

Gets Show Cause Order

Charles C. Wright, recently expelled from five national securities exchanges for alleged manipulation of Kinner Airplane & Motor stock, has appealed the decision, charging errors in SEC procedure and arguing that the Securities & Exchange Act of 1934 is unconstitutional. Judge Martin T. Manton, in U. S. Circuit Court of Appeals for the 2nd District, has signed a show cause order.

PRODUCTION UP 40%

Aircraft Manufacturing Figures For 1st Quarter of 1938 Released by Bureau

Production figures for the first three months of 1938, released May 4 by the Bureau of Air Commerce, reveal an increase of about 40% over the first three months of 1937. Total number of planes built was 798, comparing with 571 in the same period of 1937.

Of the 798, a total of 296 were for domestic civil use, 343 were delivered to military establishments, and 159 were exported. For domestic civil use there were built 260 monoplanes, 34 biplanes, and two triplanes. The monoplanes included 19 open cockpit type and 241 cabin craft. Of the biplanes, seven were open cockpit machines and 27 were cabin planes.

The report is based on BAC records of certificates of airworthiness and identification marks issued, and reports as to military and export production. "There is a possibility that there still may be a few aircraft manufactured in this period for which certificates of airworthiness or identification marks have not yet been sought," the bureau says.

New Firms Replace Aero Engines, Ltd.

Montreal, Apr. 30—Aero Engines of Canada, Ltd., is being suspended, it was announced today. The firm since 1928 has handled the sale, assembly and servicing of airplane engines manufactured by Wright Aeronautical Corp., Paterson, N. J., and Bristol Aeroplane Co., Ltd., of Bristol, England. Two Montreal companies have been formed to take its place, effective immediately.

Canadian Wright, Ltd., will distribute Wright products, and the following officials and directors have been announced: Frank M. Ross, president; J. McL. Stephen, vice-president; D. M. Martin, managing director; C. V. Heward, N. A. Timmins, Jr., C. W. Webster, Guy W. Vaughan.

British Aeroplane Engines, Ltd., will sell engines and accessories of Bristol, with the following officials and directors: J. E. Labelle, president; C. V. Heward, vice-president; Frank M. Ross, managing director; J. McL. Stephens, N. A. Timmins, Jr., C. W. Webster.

Wright Quarter Net Up

Wright Aeronautical Corp. reports a net profit for the first 1938 quarter of \$586,288 after all deductions except surtax on undistributed profits. This is equal to 98¢ a share on 599,857 no-par shares of capital stock, and compares with \$286,353 in the corresponding 1937 quarter.

Manufacturers Eye Vancouver

Vancouver, B. C., May 1—Alderman H. D. Wilson has told the city council that two large airplane manufacturers have been collecting all available information on sites adjacent to the civic airport here with regard to establishing aircraft factories. One firm is British, the other a United States concern, he said.

China Leads April Aeronautical Buyers

China and Japan led buyers of American aircraft, engines and accessories during April, purchasing \$2,527,161.50 and \$1,889,024.00, respectively. Russia, the leader during March, dropped completely out of the buying last month. The 16 countries granted licenses for aircraft products in excess of \$10,000 were as follows:

China	\$2,527,161.50
Japan	1,889,024.00
Estonia	692,000.00
Netherlands	220,013.37
Canada	199,405.62
Poland	90,000.00
Mozambique	64,000.00
Australia	52,558.00
Mexico	40,500.00
Venezuela	29,949.00
Netherlands Indies	20,642.00
Brazil	16,000.00
France	15,786.75
Argentina	15,460.00
Yugoslavia	13,071.60
Costa Rica	11,300.00

Countries buying smaller amounts during April included Finland, India, Great Britain, New Zealand, Norway, Peru and Sweden.

\$52,015 BOEING LOSS

Quarter Statement is for Parent and Subsidiary Companies

Boeing Airplane Co. and subsidiaries report for the quarter ended Mar. 31, 1938, a net loss of \$52,015 after depreciation, and federal income tax deductions, comparing with a net profit of \$115,937 or 22¢ a share on 521,882 shares in the March quarter of 1937.

Income account for the 1938 and 1937 first quarters compare as follows:

	1938	1937
Oper. revs & other inc	\$1,058,305	\$1,271,103
Costs, expenses	1,078,986	1,105,853
Depreciation	30,162	29,331
Fed. income taxes	1,172	19,982

\$52,015L, \$115,937P

Deliveries in the quarter included 26 PT-13A primary trainers delivered to U. S. Army Air Corps by Stearman Aircraft Co. and the experimental XB-15 Fortress, delivered to Army Air Corps by Boeing Aircraft Co.

Luscombe Stock Sale

Headed by Eugene J. Hynes & Co., dealers May 9 offered 155,160 shares of 50¢ par value common stock of Luscombe Airplane Corp. at \$1.25 a share, subject to prior subscription by officers, directors, and present stockholders to the extent of not more than 59,997 shares.

Proceeds, except for \$15,000 for retiring current obligations, will be used for new capital purposes, including increase of inventories, purchase of additional machinery, tools and equipment, and expansion of manufacturing facilities. An earlier story appeared in AMERICAN AVIATION Apr. 1.

Monteith on Leave

C. N. Monteith, vice-president in charge of engineering of the Boeing Aircraft Company, Seattle, is on an extended leave of absence touring South America.

HAVE YOU A PRODUCTION PROBLEM?

Let us help you solve it. Our stainless steel rudders, ailerons, surfaces and tanks are now going into U. S. Army regular service.

THE STAINLESS STEEL SPECIALISTS

FLEETWINGS

Incorporated Bristol, Pennsylvania Phone Bristol 867

S. E. C.

Following is an official summary of transactions and holdings of officers, directors and principal stockholders of corporations with equity securities registered, filed with the Commission Apr. 1-10. Unless otherwise indicated, transactions were made in March and holdings are as of the end of that month:

Aero Supply Mfg. Co.—Frank N. Ames, officer and director, decreased 1,000 class B to 4,300.

Aviation and Transportation Corp.—Gerald E. Donovan, director, increased common 200 to 500. Victor Emanuel, director, holds 12,500 common directly; through Emanuel & Co. holds 4,830; through Corporation B (property interest not shown) acquired 4,500, holding that amount and holds 5,000 through Corporation C.

Chicago & Southern Air Lines, Inc.—D. D. Walker, officer and director, holds 23,118 common vtc. and increased convertible preferred 60 to 1,940. John B. Longmire, director, holds 215 convertible preferred directly; through I. M. Simon & Co. (property interest not shown) holds 7,500 common and decreased convertible preferred 900 to 4. **Curtiss Wright Corp.**—Guy W. Vaughan, officer and director, acquired 50 common in July, 1938, holding that amount; also acquired 500 class A in March, 1936, 500 in November, 1937, and 200 in December, holding 1,200.

Lockheed Aircraft Corp.—Charles A. Barker, Jr., director, increased 150 to 550. Robert E. Gross, officer and director, decreased 500 to 40,121. Randolph C. Walker, director, holds 300 directly; through Mrs. J. S. Walker, wife, decreased 900 to 18,400.

Pan American Airways Corp.—Cornelius V. Whitney, director, holds 69,716 \$10 par common and acquired 15,000 \$5 par common, holding that amount; through C. V. Whitney trust (property interest not shown) holds 100 \$10 par common and acquired 1,250 \$5 par common, holding that amount.

Stearman Hammond Aircraft Corp.—Richard P. Gross, director, decreased common 800 to 1,800 and holds 1,030 6% convertible notes.

Thompson Products, Inc.—Frederick C. Crawford, officer, and director, decreased 100 common to 9,554.

United Air Lines Transport—Robert M. Roloson, Jr., director, increased 100 common to 4,000. P. M. Willcox, officer, increased 25 to 125 common.

Following is a tabulation of equity holdings filed by persons becoming, officers, directors or principal stockholders of issuers having any securities registered:

American Airlines, Inc.
Orval M. Mosier, off. none
Boeing Airplane Co., com.
J. Earl Schaefer,
off. & dir. 100 Mar. 1933

Beech Corp., Inc. \$1 par com.
John J. Bergen, dir. 100 Mar. 1938
Clarence K. Pistell, dir. 100 Mar. 1938
Chicago & Southern Air Lines, Inc., com.

John R. Longmire, dir. none Jan. 1938
Through I. M. Simon
& Co. 7,500 Jan. 1938
Convertible preferred
John R. Longmire, dir. 215 Jan. 1938
Through I. M. Simon
& Co. 904 Jan. 1938

North American Aviation, Inc.
Frederic G. Donner,
dir. none Mar. 1938

Air Associates Stockholders
Air Associates, Inc., reports that Gilbert Colgate, chairman of the board, owns 498 shares of first preferred, or 18.2%, and 10,930 common shares, or 10.7%. Haven Page, vice-president and director, owns 13,800 common shares, or 13.5%. Roland Palmedo owns 565 shares of first preferred, or 20.6%.

Ray Acre was elected vice-president and Howard Beazley was elected a director on Apr. 4, 1938. Other officers beside Colgate and Page are F. LeRoy Hill, president and director; H. I. Crow, executive vice-president and director; G. S. Keeverstrom, secretary and treasurer, and Edward Latham, Stephen A. McClellan, George B. Post, James B. Taylor, Jr., Richard D. Tucker directors.

The company, which purchased

Bureau Inspections

An approved type certificate has been assigned to the Dart G, two-place, closed, land, monoplane powered with Monocoupe 90-hp. engine, manufactured by the Dart Manufacturing Corp., Columbus, O. This model was formerly made by Monocoupe Corp.

The following certificates were assigned the week of Apr. 25-30:
No. 675: Aeronca KCA. Continental engine installation.

No. 676: Aeronca KM. Menasco engine installation.

No. 677: Waco models ZVN-8 and AVN-8 with Jacobs L-5.285-hp., and L-6.300-hp. engines respectively. These are somewhat similar to Customs series 5-place cabin biplanes except for modifications for the tri-cycle type landing gear.

No. 678: Stinson SR-10C, similar to SR-9 series 5-place cabin monoplanes except for minor modifications.

25 BAC Appointments

The Bureau of Air Commerce announces departmental approval has been obtained for the following new appointments: 12 assistant airways keepers; 7 junior radio operators; 1 junior civil engineer; 1 junior photographer; 1 assistant radio engineer; 3 clerks.

CONTRACTS

The Department of Labor announced the following contracts, amounting to \$51,222.50, signed during the week ended April 28 by various government agencies:

Colonial Beacon Oil Co., Inc., New York City, engine fuel, Army Air Corps, \$10,168.00.

Socony-Vacuum Oil Co., Inc., New York City, engine fuel, Army Air Corps, \$14,804.50.

Weems System of Navigation, Annapolis, Md., navigation books, Army Air Corps, \$26,250.00.

The Department of Labor announced the following contracts, amounting to \$93,296.02, signed during the week ended May 5 by various government agencies:

Anchor Lumber Co., Parkersburg, W. Va., lumber, Army Air Corps, \$10,569.24.
Kendall Refining Co., Bradford, Penna., lubricating oil, Army Air Corps, \$29,016.30.
Spriess Tool and Mfg. Co., Inc., Buffalo, N. Y., shackle assemblies, Army Air Corps, \$53,710.48.

Nicholas-Beazley Co., of Marshall, Mo., Jan. 18, operates branches at the airports of Chicago, Glendale, Dallas, and in Marshall. (The 1937 financial report appeared in AMERICAN AVIATION Feb. 15).

Beech to Issue 40,000 Shares

Beech Aircraft Corp., Wichita, Kan., in an amendment to its annual report to the SEC, announces that between Nov. 6, 1936, and April 8, 1937, Tobey & Co., principal underwriter, bought 89,349 shares for cash, totaling \$321,656.40 at \$3.60 a share. On Sept. 30, 1937, Walter H. Beech owned 97,193 shares, O. A. Beech (wife) owned 5,300 shares of record and 275 shares as beneficiary. R. K. Beech, brother, owned 240 shares. Total shares owned by these persons was 103,008, or 43.04% of the total of 239,349 shares outstanding Sept. 30. The firm expects to issue 40,000 additional shares, which will reduce Beech-owned stock percentage to 36.87%.

Assets as of Sept. 30 were \$830,975.31, including cash of \$28,415.63. Net income before deductions was \$19,214.45. Earned surplus was reported at \$14,042.01.

Menasco Seeks S. F. Listing

Menasco Manufacturing Co. has filed application for registration on the San Francisco Stock Exchange in addition to the Los Angeles Stock Exchange.

AVIATION STOCK TRENDS

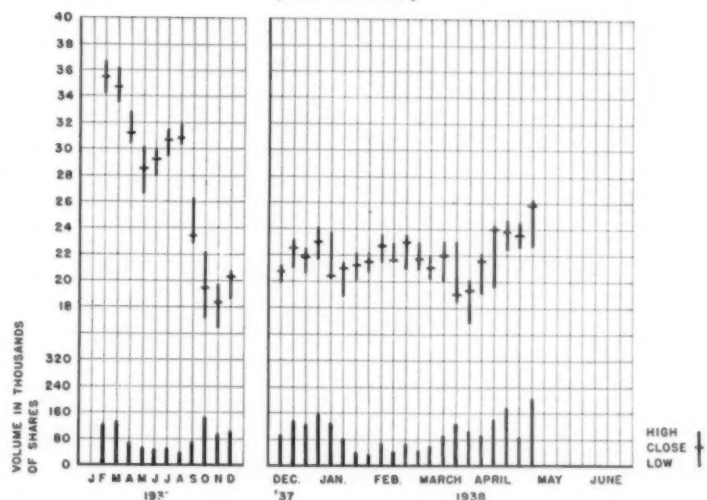
WEEKLY AVIATION AVERAGES
(1937-1938)

Chart Data Supplied by Wyckoff Associates, Inc., Comments by Philip P. Friedlander

The aviation stocks have led the market forward. From a low of 17.03, established in late March, these stocks have now gained a full nine points in the compiled averages. The high of the week ending May 7 was 26.28. In view of the extensive gains shown by this group, caution dictates watching these stocks very carefully.

Recent action of aviation stocks, of course, have been very bullish. During the sell-off that occurred in the last week of April, the volume dropped to 81,000 shares. Then when the avia-

tion stocks started breaking through into new high grounds, the volume jumped to 207,000 shares.

At the level of 28, one can feel reasonably sure that some sort of resistance will be encountered. If such is the case, it may be wise to take profits, and await a better opportunity for re-entrance.

Aviation stocks will go higher, but the percentage of increase from this point on will not be as good as in some other groups which, up to now, have lagged behind the procession.

LEADING AVIATION STOCKS

NEW YORK STOCK EXCHANGE

	Week Ending Apr. 30				Week Ending May 7			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Corp.	4	3 ⁵ / ₈	— 1 ¹ / ₈	8,100	41 ¹ / ₈	35 ⁵ / ₈	+ 1 ¹ / ₈	6,900
Bendix Aviation	12	11 ¹ / ₈	— 1 ¹ / ₈	5,900	12 ¹ / ₈	10 ¹ / ₈	+ 3 ⁵ / ₈	5,900
Boeing Airplane	28 ¹ / ₄	26	— 7 ¹ / ₈	20,500	28	25 ¹ / ₈	+ 3 ⁵ / ₈	28,000
Consolidated Aircraft	16 ³ / ₄	15 ¹ / ₄	— 1	8,500	17 ¹ / ₈	15 ¹ / ₈	+ 1 ¹ / ₄	13,500
Curtiss-Wright	47 ¹ / ₄	41 ¹ / ₂	— 1 ¹ / ₄	22,400	51 ¹ / ₈	41 ¹ / ₂	+ 3 ⁵ / ₈	58,800
Curtiss-Wright A	18 ³ / ₄	17 ³ / ₈	— 1 ¹ / ₈	16,700	20 ¹ / ₂	18 ¹ / ₂	+ 2	39,300
Douglas Aircraft	44	41 ¹ / ₈	— 1 ¹ / ₈	36,800	47 ³ / ₄	41 ¹ / ₂	+ 4 ³ / ₈	61,800
Glenn L. Martin	22 ¹ / ₄	20 ¹ / ₄	— 3 ⁵ / ₈	42,800	24 ³ / ₈	21	+ 2 ³ / ₈	64,000
Natl. Aviation	8	7 ¹ / ₂	— 3 ⁵ / ₈	2,300	8 ⁵ / ₈	7 ¹ / ₂	+ 7 ¹ / ₈	2,500
N. American Aviation	9 ¹ / ₈	8 ¹ / ₄	— 1 ¹ / ₈	16,200	9 ¹ / ₈	8 ¹ / ₄	+ 1 ¹ / ₂	21,800
Sperry Corp.	20 ¹ / ₄	18 ¹ / ₈	— 1 ¹ / ₂	22,200	21	19 ³ / ₈	+ 1	32,100
Thompson Products	11 ¹ / ₄	11	— 3 ⁵ / ₈	900	11 ¹ / ₈	10 ⁵ / ₈	+ 1 ¹ / ₈	600
TWA	6 ¹ / ₄	5 ³ / ₄	— 3 ⁵ / ₈	2,000	6 ¹ / ₄	4 ⁷ / ₈	+ 1 ¹ / ₄	8,800
United Air Lines	8	7 ¹ / ₄	— 3 ⁵ / ₈	6,700	8 ⁵ / ₈	7 ¹ / ₈	+ 1 ¹ / ₈	24,600
United Aircraft	27 ¹ / ₈	25 ¹ / ₈	— 7 ¹ / ₈	40,500	28 ¹ / ₄	24 ³ / ₈	+ 2	62,200

NEW YORK CURB EXCHANGE

	Week Ending Apr. 30				Week Ending May 7			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply B	3 ³ / ₄	3 ¹ / ₂	+ 1 ¹ / ₈	700	3 ³ / ₄	3 ⁵ / ₈	— 1 ¹ / ₈	800
American Airlines	12 ³ / ₄	11 ¹ / ₂	— 1	700	13	10 ³ / ₄	+ 1 ¹ / ₂	2,100
Beech Aircraft	11 ¹ / ₂	11 ¹ / ₂	— 1 ¹ / ₈	300	11 ¹ / ₂	1 ³ / ₈	— 1 ¹ / ₈	400
Bell Aircraft	12 ¹ / ₂	11 ³ / ₄	— 1 ¹ / ₂	700	13 ¹ / ₄	11 ³ / ₄	+ 1 ¹ / ₂	1,900
Bellanca Aircraft	3 ⁷ / ₈	3 ³ / ₄	— 1 ¹ / ₈	300	4	3 ⁷ / ₈	+ 1 ¹ / ₈	800
Breeze Corp.	5 ¹ / ₄	4 ¹ / ₂	— 5 ⁵ / ₈	300	4 ⁷ / ₈	4 ¹ / ₂	+ 1 ¹ / ₄	400
Brewster Aero	4 ⁷ / ₈	4 ¹ / ₂	+ 3 ⁵ / ₈	4,500	4 ⁷ / ₈	4 ⁵ / ₈	— 1 ¹ / ₈	1,900
Fairchild Aviation	3 ³ / ₄	3 ³ / ₈	— 1 ¹ / ₈	800	3 ⁷ / ₈	3 ⁵ / ₈	+ 1 ¹ / ₈	2,000
Irving Chute	9 ¹ / ₈	9 ¹ / ₈	— 3 ⁵ / ₈	200	9 ¹ / ₈	9 ³ / ₈	+ 1 ¹ / ₈	300
Lockheed Aircraft	8 ³ / ₄	8 ¹ / ₈	— 1 ¹ / ₈	10,000	9 ³ / ₈	8 ¹ / ₈	+ 3 ⁵ / ₈	10,300
Pan American Air	15	14 ³ / ₈	— 5 ⁵ / ₈	1,100	15 ¹ / ₈	13 ⁵ / ₈	+ 1 ¹ / ₂	1,800
Seversky Aircraft	3 ³ / ₄	2 ⁵ / ₈	+ 1 ¹ / ₈	14,800	3	2 ⁵ / ₈	— 1 ¹ / ₈	7,500
Waco Aircraft	2 ¹ / ₂	2 ¹ / ₂	— 1 ¹ / ₈	200	2 ¹ / ₂	2	+ 1 ¹ / ₈	300
Western Air Express	3 ¹ / ₈	2 ¹ / ₂	— 5 ⁵ / ₈	1,500	2 ³ / ₄	2 ¹ / ₂	+ 1 ¹ / ₈	1,200

Ex-Cell-O Profit \$132,063

Ex-Cell-O Corp. reports a first quarter net profit of \$132,063, equal to 33¢ each on 393,345 capital shares, compared with a net profit of \$108,837, or 28¢ each on 386,848 shares in the 1937 first quarter.

48-Week Solar Statement

Net income of \$43,375 is announced by Solar Aircraft Corp. for the 48-weeks to Apr. 2, equal to 33¢ each on 129,640 shares. Sales in that time totaled \$453,471.

NEW

MARTIN 166 BOMBER



NEW

STRIKING POWER

THE new Martin Bomber, Model 166, stands out in sharp contrast—even with its famous Martin predecessors. This new model has vastly greater speed, greater range, and proven reliability—in short, GREATER STRIKING POWER. Model 166, the latest and greatest of the world-known bombardment aircraft developed by Martin, is available for export.

THE GLENN L. **MARTIN** COMPANY

BALTIMORE, MARYLAND, U. S. A.

Builders of Dependable



Aircraft Since 1909

